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**ELECTRONICALLY
FILED**
*Superior Court of California,
County of San Francisco*

**09/23/2024
Clerk of the Court
BY: AUSTIN LAM
Deputy Clerk**

**FILING FEES EXEMPT
PURSUANT TO GOV. CODE § 6103**

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12 *California, ex rel. Rob Bonta, Attorney General of*
California

CGC-24-618323

13 SUPERIOR COURT OF THE STATE OF CALIFORNIA
14 COUNTY OF SAN FRANCISCO

16 THE PEOPLE OF THE STATE OF
17 CALIFORNIA, ex rel. ROB BONTA,
ATTORNEY GENERAL OF
CALIFORNIA,

Plaintiff,

Case No.

**COMPLAINT FOR ABATEMENT,
EQUITABLE RELIEF, AND CIVIL
PENALTIES; PRELIMINARY AND
PERMANENT INJUNCTION**

JURY TRIAL DEMANDED

- (1) PUBLIC NUISANCE;
- (2) GOVERNMENT CODE SECTION 12607;
- (3) WATER POLLUTION;
- (4) UNTRUE OR MISLEADING ADVERTISING;
- (5) MISLEADING ENVIRONMENTAL MARKETING; AND
- (6) UNLAWFUL, UNFAIR, OR FRAUDULENT BUSINESS PRACTICES.

22 EXXON MOBIL CORPORATION; AND
DOES 1 THROUGH 100, INCLUSIVE,

Defendants.

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The People of the State of California, by and through Attorney General Rob Bonta, for the protection of the State's¹ natural resources and residents, allege² as follows:

INTRODUCTION

1. The plastics industry, through its deceptive public messaging regarding plastic recycling, is responsible for one of the most devastating global environmental crises of our time: the plastic waste and pollution crisis.

2. ExxonMobil, the largest producer of plastic polymers used to manufacture single-use plastics, caused or substantially contributed to the deluge of plastic pollution that has harmed and continues to harm California’s environment, wildlife, natural resources, and people. ExxonMobil not only promotes and produces the largest amount of plastic that becomes plastic waste in California, it has also deceived Californians for almost half a century by promising that recycling could and would solve the ever-growing plastic waste crisis. All the while, ExxonMobil has known that mechanical recycling, and now “advanced recycling,” will never be able to process more than a tiny fraction of the plastic waste it produces.

3. Even as it ramped up plastic production and deceptively promoted recycling as a cure-all for plastic waste, ExxonMobil knew that the consequent amount of plastic waste would continue to rise, inevitably leading to ever-increasing plastic pollution of the environment, harming California’s iconic coastlines, waterways, wildlife, and residents. ExxonMobil knew that once plastic enters the environment it is extremely costly and difficult to eradicate and that plastic predictably disintegrates into microplastics—tiny plastic bits measuring five millimeters or less—which pose an even greater threat of harm to the environment and all living things, including human bodies. For decades, ExxonMobil has dumped the cleanup and environmental costs of its plastic production on the public, and Californians are paying the price.

111

¹ In this Complaint, the term “State” refers to the State of California, unless otherwise stated. The term “California” refers to the area falling within the State’s geographic boundaries, unless otherwise stated. The State expressly disclaims injuries arising on federal land and tribal lands held in trust by the United States and does not seek recovery or relief attributable to these injuries.

² The allegations herein are based on information and belief unless otherwise indicated.

1 4. Plastics are made from fossil fuels like natural gas or petroleum. ExxonMobil,
2 one of the world's largest oil and gas companies, provides fossil fuel inputs for plastic production.
3 As a vertically integrated company, ExxonMobil also has a chemical division that converts its
4 fossil fuels into plastic monomers and polymers, such as ethylene, propylene, polyethylene, and
5 polypropylene, which are commonly made into consumer products and packaging, including
6 single-use plastics (i.e., use once and dispose). Those consumer products include plastic bottles,
7 bags, snack wrappers, straws, cups, balloons, and other products that become plastic waste and
8 plastic pollution in California and elsewhere. ExxonMobil stands at the top of the plastic-
9 production pyramid, as the world's largest producer of single-use plastic polymers, and
10 ExxonMobil continues to grow its plastics production—guaranteeing the plastic waste and
11 pollution crisis will continue to grow.

12 5. As a leader in the plastics industry, ExxonMobil has aggressively promoted the
13 development of fossil-fuel-based plastic products and campaigned to minimize the public's
14 understanding of the harmful consequences of these products. It has sought to convince the public
15 through a decades-long campaign of deception that recycling is the solution to plastic waste,
16 despite knowing full well that the infrastructure, market, and technology for plastic recycling,
17 particularly for single-use plastics, are woefully inadequate for the volume of plastic ExxonMobil
18 produces, and that it is technically and economically nonviable to handle the amount of plastic
19 waste it produces. This campaign of deception continues to this day.

20 6. ExxonMobil's deceptive statements were designed to mislead consumers and
21 the public—including the State, its businesses, and its residents—about the serious adverse
22 consequences that would foreseeably result from continued and increased production of plastic
23 products. ExxonMobil's deceptions undermined consumers' ability to make informed choices to
24 avoid the catastrophic harms we are experiencing. Globally, and in California, single-use plastic
25 chokes our waterways, poisons our oceans, harms already endangered and threatened wildlife,
26 blights our landscapes, contaminates the recycling stream, increases waste management costs,
27 pollutes our drinking water, and expands landfills. While pushing the costs of these harms onto
28 Californians and inflicting environmental injustices on the State's most vulnerable communities,

1 ExxonMobil's deception has allowed it to continue to profitably and rapidly grow its single-use
2 plastic production business.

3 7. ExxonMobil must be held accountable for its actions.

4 **PARTIES**

5 **I. PLAINTIFF.**

6 8. Plaintiff is the People of the State of California. This civil enforcement action is
7 prosecuted on behalf of the People by and through Rob Bonta, Attorney General of California,
8 under the Attorney General's broad independent powers to enforce state laws (Cal. Const. art. V,
9 § 13), and pursuant to Government Code section 12600 et seq.; Fish and Game Code sections
10 5650.1 and 5650; Civil Code sections 3479, 3480, 3491, and 3494; Business and Professions
11 Code section 17203, 17204, 17206, 17535, and 17536; and Code of Civil Procedure sections 731
12 and 1021.8.

13 **II. DEFENDANT EXXONMOBIL.**

14 **A. ExxonMobil's Corporate Structure.**

15 9. Defendant Exxon Mobil Corporation is a New Jersey corporation headquartered
16 in Spring, Texas, and has been registered to do business in California since 1972. Exxon Mobil
17 Corporation is a multinational, vertically integrated energy and chemical company and one of the
18 largest publicly traded international oil and gas companies in the world. Exxon Mobil
19 Corporation was formerly known as, did or does business as, and/or is the successor in liability to
20 Exxon Corporation; ExxonMobil Refining and Supply Company; Exxon Chemical U.S.A.;
21 ExxonMobil Chemical Corporation; ExxonMobil Chemical U.S.A.; ExxonMobil Refining &
22 Supply Corporation; Exxon Company, U.S.A.; Standard Oil Company of New Jersey; and Mobil
23 Corporation. On November 30, 1999, Exxon and Mobil merged to form Exxon Mobil
24 Corporation.

25 10. ExxonMobil Chemical Company and ExxonMobil Product Solutions Company
26 are divisions within Exxon Mobil Corporation, act on Exxon Mobil Corporation's behalf, and are
27 subject to Exxon Mobil Corporation's control.

28 11. Defendant Exxon Mobil Corporation, including ExxonMobil Chemical

1 Company, ExxonMobil Product Solutions, and any predecessors, successors, parents,
2 subsidiaries, affiliates, and divisions, are collectively referred to herein as “ExxonMobil.”

3 12. When this Complaint references an act or omission of ExxonMobil, unless
4 specifically attributed or otherwise stated, such references mean that the officers, directors,
5 agents, employees, or representatives of ExxonMobil committed or authorized such an act or
6 omission, or failed to adequately supervise or properly control or direct their employees while
7 engaged in the management, direction, operation or control of the affairs of ExxonMobil, and did
8 so while acting within the scope of their employment or agency.

9 13. ExxonMobil’s Board holds the highest level of direct responsibility for policy
10 within the company. ExxonMobil’s Chairman of the Board and Chief Executive Officer, its
11 President, and the other members of its Management Committee have been actively engaged in
12 discussions relating to plastics and the risks of plastic waste and pollution on an ongoing basis,
13 and continue to actively promote the false narrative that recycling can solve plastic waste. The
14 Board opposed a 2022 shareholder proposal to issue a report on how reducing virgin plastic
15 production to reduce ocean plastic pollution would affect ExxonMobil’s financial position. The
16 Board opposed a similar shareholder proposal in 2023, stating that proponents of the study
17 wrongly concluded that solutions to plastic waste include “reduced use of plastics,” arguing that
18 the proposal “understates the potential of recycling, particularly advanced recycling” to address
19 plastic waste, and claiming that ExxonMobil can “address plastic waste in the environment while
20 driving new economic growth in the United States through recycling—an important ‘win-win’
21 that is achievable.”

22 **B. ExxonMobil’s Segments and Divisions.**

23 14. Exxon Mobil Corporation consists of numerous segments, divisions, and
24 affiliates in all areas of the fossil fuel, petrochemical, and plastics industries with names that
25 include ExxonMobil, Exxon, Esso, Mobil or XTO. ExxonMobil has an integrated business model
26 “involving exploration for, and production of, crude oil and natural gas; manufacture, trade,
27 transport and sale of crude oil, natural gas, petroleum products, petrochemicals, and a wide
28 variety of specialty products.” This integration is clear from its SEC filings, where ExxonMobil

1 includes in its reportable segments Upstream (oil and gas), Energy Products (fuels), Chemical
2 Products (plastics petrochemicals), and Specialty Products (lubricants).

3 15. ExxonMobil controls and has controlled company-wide decisions, including
4 those of its various segments and divisions, about the quantity and extent of production of
5 products and sales of products. ExxonMobil represents that its success, including its “ability to
6 mitigate risk and provide attractive returns to shareholders, depends on [its] ability to successfully
7 manage [its] overall portfolio, including diversification among types and locations of [its]
8 projects, products produced, and strategies to divest assets.” ExxonMobil determines whether and
9 to what extent its segments and divisions market, produce, and/or distribute products, including
10 petrochemical products used to produce plastics, such as ethylene, polyethylene, and
11 polypropylene, and products made from “advanced recycling,” such as “certified circular
12 polymers.”

13 16. ExxonMobil controls and has controlled company-wide decisions, including
14 those of its segments and divisions, related to marketing, advertising, and communications
15 strategies concerning plastics and the relationship between plastics, recycling, and plastic-related
16 impacts on the environment and humans.

17 **III. DEFENDANT DOES 1 THROUGH 100.**

18 17. Plaintiff is not aware of the true names and capacities of defendants sued herein
19 as DOES 1 through 100, inclusive, and therefore sues those defendants by fictitious names. Each
20 fictitiously named Defendant is responsible in some manner for the violations of law
21 alleged. Plaintiff will amend this Complaint to add the true names of the fictitiously named
22 defendants once they are discovered. Whenever reference is made in this Complaint to
23 “Defendants” or “ExxonMobil,” such reference shall include DOES 1 through 100 as well as the
24 named defendants.

25 18. At all relevant times, each Defendant acted as a principal, under express or
26 implied agency, and/or with actual or ostensible authority to perform the acts alleged in this
27 Complaint on behalf of every other named Defendant. At all relevant times, some or all
28 Defendants acted as the agent of the others, and all Defendants acted within the scope of their

1 agency if acting as an agent of another.

2 19. At all relevant times, each Defendant knew or should have known that the other
3 Defendants were engaging in or planned to engage in the violations of law alleged in this
4 Complaint. Knowing that the other Defendants were engaging in such unlawful conduct, each
5 Defendant nevertheless facilitated the commission of those unlawful acts. Each Defendant
6 intended to and did encourage, facilitate, or assist in the commission of the unlawful acts, and
7 thereby aided and abetted the other Defendants in the unlawful conduct.

8 20. Defendants have engaged in a conspiracy, common enterprise, and common
9 course of conduct, the purpose of which is and was to engage in the violations of law alleged in
10 this Complaint. The conspiracy, common enterprise, and common course of conduct continue to
11 the present.

12 21. Defendants also served as the agent, servant, employee, alter ego, co-
13 conspirator, aider and/or abettor of one or more of the ExxonMobil Defendants and acted
14 individually and/or within the scope of its agency, servitude, employment, and conspiracy.

15 **IV. INDUSTRY GROUPS.**

16 22. For decades, ExxonMobil has used and funded numerous industry groups as a
17 mechanism to widely spread deceptive messages about the environmental benefits and
18 recyclability of plastic, including within California.

19 23. The American Chemistry Council (ACC), founded in 1872 and formerly called
20 the Chemical Manufacturers Association, is an influential industry group that claims to “work[]
21 for a more sustainable future by developing innovative solutions to advance recovery, recycling,
22 and reuse of plastic,” among its work in other areas.

23 24. ExxonMobil has been part of the leadership of ACC for decades. ExxonMobil
24 is currently a member of ACC’s Plastics Division. Numerous individuals at Exxon and Mobil sat
25 on the Executive Committees for the Chemical Manufacturers Association. ACC leadership has
26 included members of ExxonMobil’s executive team. ExxonMobil employees likewise have held
27 leadership positions with ACC’s Plastic Division. From 2008 to 2013, ExxonMobil was the
28 number one financial contributor to the ACC, in some years contributing three times more than

1 the number two contributor.

2 25. The Plastics Industry Association (PLASTICS) is another group that represents
3 companies across the plastics supply chain. PLASTICS “protect[s], promote[s], and grow[s] the
4 plastics industry.” PLASTICS was previously known as the Society of the Plastics Industry (SPI),
5 until its 2016 name change to PLASTICS. SPI formed in 1937 with the primary purpose of
6 building public acceptance of plastics. Exxon Chemical Company and Mobil Chemical Company
7 and/or officials of those companies were members of SPI, on SPI’s executive committee and
8 executive board, executive board members of SPI’s Council for Solid Waste Solutions, and
9 headed many committees within SPI, including the Chemical Manufacturers Association
10 Committee, the Environmental, Health, Safety & Operations Committee, State Affairs
11 Committee, and the Federal Government Relations Committee. ExxonMobil is currently a
12 member of PLASTICS. In 2023, an ExxonMobil Senior Sustainability Advisor was Vice Chair of
13 PLASTICS’ Recycling Committee.

14 26. SPI created numerous subdivisions, including The Vinyl Institute, which has
15 advocated for decades on behalf of the polyvinyl chloride (PVC) industry. Since at least 1992,
16 Exxon Chemical US was an affiliate member of The Vinyl Institute. The Vinyl Institute became
17 an independent organization in 2008. ExxonMobil is now a “Supporting Member” of the Vinyl
18 Institute. SPI additionally formed a Plastic Bottle Division and the Council on Packaging in the
19 Environment (COPE, previously known as Council on Plastics and Packaging in the Environment
20 (COPPE)). COPE was disbanded in or around 1996.

21 27. SPI formed the Council for Solid Waste Solutions (Council) in 1988, which
22 promoted recycling as an alternative to reducing plastics consumption. Exxon and Mobil were
23 both on the executive board of the Council.³

24 28. In 1991, SPI formed the Partnership for Plastics Progress (Partnership), which
25 replaced the Council. The purpose of the Partnership was “to provide coordinated industry-wide
26 leadership at the CEO level and to deal with issues beyond solid waste.” The Partnership’s goal
27 was “to bring to the fore a well-funded, strategic program of outreach, issues management and

28 ³ Council for Solid Waste Solutions, *The Urgent Need to Recycle* (July 17, 1989) *Time*.

1 legislative affairs to ensure that the public at large and key industry constituents understand the
2 vital role that plastics play in our society.” Exxon and Mobil were both members of the
3 Partnership.

4 29. Shortly after the Partnership was created, SPI changed the Partnership’s name
5 to the American Plastics Council (APC). In or around 2002, the American Plastics Council
6 merged with the ACC.

7 30. The Alliance to End Plastic Waste (Alliance) is an organization founded by 28
8 corporations in 2019, including ExxonMobil. The Alliance purports to “end plastic waste in the
9 environment and advance a circular economy for plastics,” and promotes the feasibility of
10 “advanced” and mechanical recycling to achieve these goals. Since 2023, ExxonMobil has
11 employed a full-time “loaned executive” working within the Alliance whose title is “Chief
12 Advisor, Head of Americas.”

13 31. The Recycling Partnership is an organization that encourages local
14 governments to improve their recycling programs, in support of the plastics industry’s deceptive
15 narrative that plastics are sustainable and recycling can solve the plastic waste and pollution
16 crisis. ExxonMobil has been a member of the Recycling Partnership since 2018, initially
17 investing \$1.5 million into the organization.

18 32. Another group, America’s Plastic Makers, is an industry group that essentially
19 consists of the ACC’s Plastics Division, which is made up of ExxonMobil and other businesses in
20 the plastics industry. America’s Plastic Makers promotes the exceedingly unlikely claims that one
21 hundred percent of U.S. plastic packaging will be recyclable or recoverable by 2030, and actually
22 recycled, reused, or recovered by 2040, without any reduction in plastic use.

23 33. ExxonMobil also sponsors the Association of Plastic Recyclers. The
24 Association of Plastic Recyclers proactively holds meetings in California and regularly seeks to
25 influence California laws that are intended to reduce plastic waste and pollution.

26 **V. EXXONMOBIL’S BUSINESS SCOPE AND DEALINGS.**

27 34. ExxonMobil is one of the largest oil and gas companies in the world with \$36
28 billion in profits in 2023, the largest oil and gas company in the United States, and the world’s

1 largest producer of petrochemical polymers used for single-use plastics.⁴ These plastics
2 petrochemicals are derived from oil and gas, allowing ExxonMobil to capitalize on being “the
3 largest refiner and marketer of petroleum products” in the United States.

4 35. A key component of ExxonMobil’s overall business is producing chemicals for
5 use in plastics, including ethylene, polyethylene, and polypropylene. ExxonMobil considers the
6 production of these chemicals, which are used in single-use plastic products, as the “core” of its
7 chemicals and products portfolio, with “80% of [ExxonMobil’s] growth [being] dependent on
8 single-use plastics applications.” In 2023, ExxonMobil had an annual production capacity of 14.5
9 million tonnes⁵ (31.9 billion pounds per year) of polyethylene and polypropylene plastics
10 petrochemicals worldwide, including a production capacity of 7.7 million tonnes per year (16.3
11 billion pounds per year) in the United States. In 2021, ExxonMobil contributed more “virgin”
12 plastic polymers (plastic material that has not been subject to earlier use and has not been blended
13 with scrap or waste) bound for single-use plastic than any other petrochemical company—over
14 six million tonnes, roughly equivalent to *two trillion* single-use plastic cups in that one year
15 alone.⁶

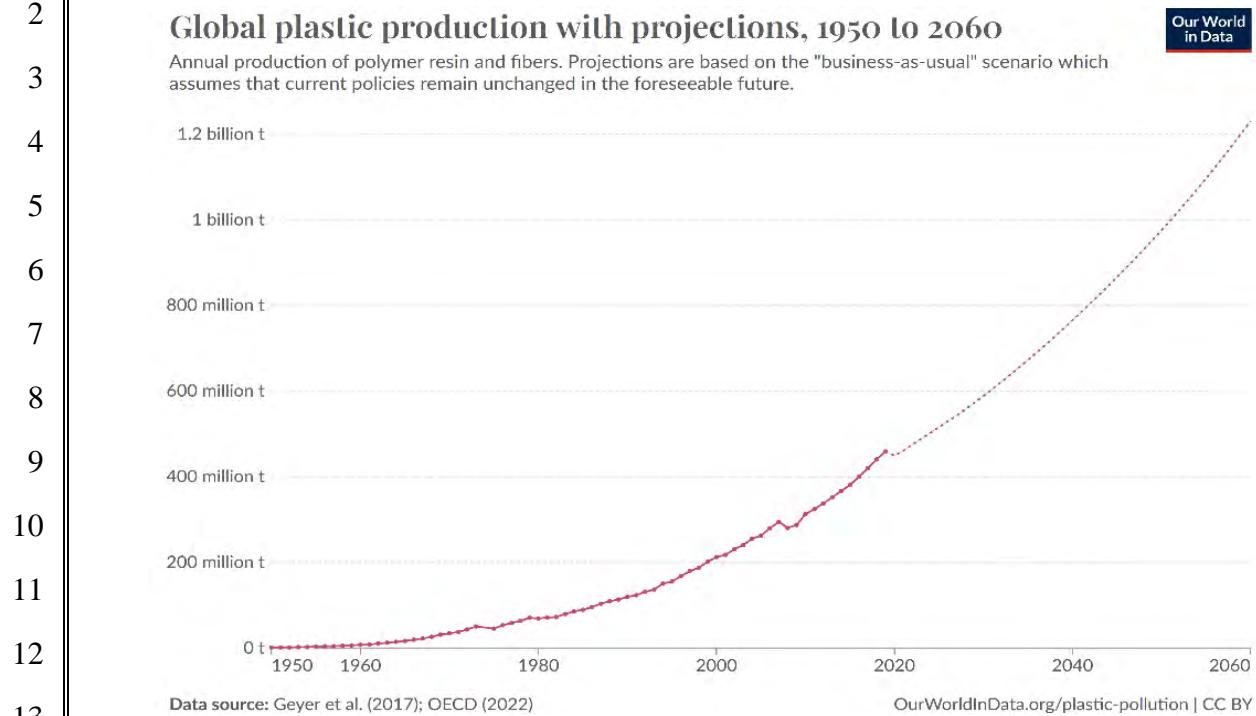
16 36. In line with the rapid increase of plastic production globally (see Figure A,
17 below), ExxonMobil is rapidly increasing its production of these plastics petrochemicals. In the
18 past ten years, ExxonMobil has increased its worldwide ethylene production capacity by 32
19 percent, its polyethylene production capacity by 30 percent, and its polypropylene production
20 capacity by 27 percent worldwide. In the United States, ExxonMobil has increased its plastics
21 chemicals production capacity even more dramatically: ethylene capacity increased 77 percent,
22 polyethylene capacity increased 82 percent, and polypropylene capacity increased 89 percent. See
23 Figure B, below.

⁴ Charles and Kimman, Minderoo Foundation, Plastic Waste Makers Index 2023 (2023) (hereafter Minderoo 2023).

⁵ Note that ExxonMobil typically reports production in “metric tonnes.” “Tonne” is another term for metric ton. One tonne is equal to the weight of 1.1 U.S. tons (2,204.6 pounds). (See Encyclopedia Britannica, *Ton*, <https://www.britannica.com/science/ton> [as of Apr. 4, 2024].) In some cases, ExxonMobil employs U.S. units (lbs.) when reporting weights. This Complaint converts U.S. tons to tonnes throughout.

⁶ Minderoo 2023, *supra*. This estimate assumes it takes about three grams of plastic petrochemicals to produce one plastic cup.

1 **Figure A: Plastics Production Chart and Prediction To 2060⁷**



15 **Figure B: ExxonMobil Plastic Chemical Production Capacity – 2014 through 2023**

16 Year	17 U.S. Ethylene Capacity In Million Tonnes	18 U.S. Polyethylene Capacity In Million Tonnes	19 U.S. Polypropylene Capacity In Million Tonnes
2014	3.9	3.3	.9
2015	3.9	3.3	1.0
2016	3.9	3.3	1.1
2017	4.3	4.6	0.9
2018	5.8	4.6	1.1
2019	5.8	5.3	0.9
2020	5.8	5.3	0.9
2021	5.9	5.3	1.1
2022	6.9	6.0	1.6
2023	6.9	6.0	1.7

⁷ Global Plastic Production with Projections, 1950 to 2060, Our World in Data
<<https://ourworldindata.org/grapher/global-plastic-production-projections>> (as of July 29, 2024).

1 37. ExxonMobil continues to expand production capacity, including recently doubling its
2 production capacity for polypropylene in Baton Rouge, Louisiana, increasing polyethylene
3 production in Beaumont, Texas by 60 percent, and investing \$2 billion in a petrochemical plant in
4 Baytown, Texas as part of a \$20 billion “Growing the Gulf” expansion that will significantly
5 expand ExxonMobil’s virgin plastic production capacity.

6 38. ExxonMobil’s Baytown Complex is emblematic of ExxonMobil’s investment in
7 virgin plastic production, refining 588,000 barrels of crude oil per day (the tenth largest refinery
8 in the world) alongside a chemical plant that is “capable of producing more than eight billion
9 pounds of petrochemical products” per year. In fact, ExxonMobil depends on single-use plastics
10 production and consumption for its rapidly growing and profitable petrochemical business.
11 ExxonMobil sold 32,035 tonnes of its polypropylene for making plastic cups in 2017, roughly
12 equivalent to 8.8 billion single-use plastic cups.

JURISDICTION AND VENUE

14 39. This Court has original jurisdiction over this action pursuant to article VI,
15 section 10, of the California Constitution.

16 40. This Court also has personal jurisdiction over ExxonMobil pursuant to Code of
17 Civil Procedure section 410.10. ExxonMobil purposefully availed itself of the California market,
18 and thus of the benefits of the laws of the State, during all times relevant to this Complaint.
19 ExxonMobil’s operations, contacts, and ties with California establish California courts’ exercise
20 of jurisdiction over ExxonMobil consistent with traditional notions of fair play and substantial
21 justice. ExxonMobil researched, developed, manufactured, designed, marketed, distributed,
22 released, promoted, and/or otherwise sold petrochemical products, including petrochemicals that
23 are used to make plastics and ExxonMobil “certified circular polymers,” in California, giving rise
24 to the claims of this suit.

25 41. ExxonMobil controls and continues to control decisions about the quantity and
26 extent of its petrochemical production and sales and chooses to sell petrochemicals to entities in
27 California; determines whether and to what extent to market, produce, and/or distribute its
28 petrochemical products and markets and distributes petrochemical products in California; and

1 controls and continues to control decisions related to its marketing and advertising, specifically
2 communications strategies concerning the efficacy of plastic recycling, including “advanced
3 recycling,” and the relationship between plastics, recycling, and plastic-related impacts on the
4 environment and humans, and has targeted California with those advertisements and
5 communication strategies.

6 **I. EXXONMOBIL’S BUSINESS TIES TO CALIFORNIA.**

7 42. Significant quantities of ExxonMobil’s petrochemical products and plastics
8 made from ExxonMobil’s petrochemicals are or have been transported, traded, distributed,
9 promoted, marketed, manufactured, sold, and/or consumed in California, from which activities
10 ExxonMobil derives and has derived substantial revenue—ExxonMobil’s U.S. earnings total over
11 \$12 billion from chemical products in the past three years.

12 43. ExxonMobil’s petrochemical manufacturing is fused with ExxonMobil’s oil and
13 gas production, with more than 90 percent of the company’s chemical capacity integrated with
14 ExxonMobil refineries or natural gas processing plants. Historically, ExxonMobil owned 1,501
15 oil and gas wells in California. Until 2022, ExxonMobil operated another 58,212 wells in
16 California with Shell Oil Company through a jointly owned entity, Aera Energy, LLC; 14,188 of
17 these wells are currently active. Aera produces approximately 125,000 barrels of oil and 32
18 million cubic feet of natural gas per day and was sold to IKAV Energy in 2022 for \$4 billion.
19 ExxonMobil also owns and operates a petroleum storage and transport facility in San Ardo,
20 California. Until February 2024, ExxonMobil operated three offshore oil production platforms off
21 the coast of Santa Barbara, and currently retains a large financial stake in the entity that purchased
22 the platforms, Sable Offshore Corp.⁸ In 2021, ExxonMobil Chemical Company acquired Materia
23 Inc., a producer of plastic structural polymers headquartered in Pasadena, California, for \$156
24 million. ExxonMobil also owned and operated an oil refinery in Torrance, California from 1966
25 to 2016, operated a petroleum refinery in Benicia, California, from 1968 to 2000, and has a long
26 history in California, including operating four manufacturing facilities (two chemical coatings

27
28 ⁸ ExxonMobil sold the platforms to Sable for \$643 million but provided Sable a loan of at least \$625 million for the purchase.

1 and two plastic packaging facilities), a plastic production facility for polystyrene foam trays and
2 egg cartons, a plastic production facility for polyethylene films for bags and meat and poultry
3 wrappings, and a polystyrene recycling facility through partial ownership of the National
4 Polystyrene Recycling Company.

5 44. ExxonMobil, through its chemical division, has a vast customer base for its
6 plastics petrochemicals. Its customers include the largest U.S. suppliers of plastics packaging,
7 including companies that produce single-use plastic bags, bottles, cups, and other food and
8 beverage packaging that are sold nationwide, with products ending up in California under
9 household brand names. For example, Exxon sells its plastics petrochemicals to Berry Global,
10 who sells plastic products to the following national brands:

11 **Figure C: Berry Global Customers**



12 45. ExxonMobil also distributes its plastics petrochemicals to plastics distribution
13 centers located throughout California. These distribution centers act as intermediaries between
14 ExxonMobil and businesses that make and sell plastic products. Through these intermediaries,
15 ExxonMobil's plastics petrochemicals become plastic bags, plastic cups, plastic water and soda
16 bottles, plastic food packaging, and other single-use plastic products (among other applications).
17 Additionally, California business customers have purchased ExxonMobil's "advanced recycling"
18 "certified circular polymers" for use in single-use plastic products. ExxonMobil also regularly
19 participates in trade conferences in California to promote its petrochemical plastics products to
20 intermediaries and other business customers.

21 46. ExxonMobil uses its intermediaries and business customers to help promote
22

1 plastics consumption as environmentally sustainable in an effort to increase or maintain demand
2 for ExxonMobil's plastics petrochemicals. Most recently, ExxonMobil has partnered with several
3 businesses that sell products in California, including a California-based plastics producer, to
4 promote ExxonMobil's "advanced recycling" by issuing press releases to promote the use of
5 ExxonMobil's "certified circular polymers."

6 47. ExxonMobil views government regulations affecting "production or use of new
7 or recycled plastics" as a significant "risk factor" to its business. Accordingly, ExxonMobil has
8 lobbied extensively against plastics regulations in California, and specifically against legislation
9 holding plastics producers accountable for the environmental impacts of its products.⁹ In 2022,
10 ExxonMobil paid \$4 million to the American Chemistry Council (ACC) to fight a California
11 ballot measure seeking to establish an extended producer responsibility program¹⁰ for plastic
12 products. Since 2020, ExxonMobil has paid \$23.4 million to the ACC to fund national lobbying
13 efforts to promote plastic products across the United States, including within California. Recently,
14 ExxonMobil identified California as a target market for new legislation to promote "advanced
15 recycling" as an alleged solution to the plastic waste crisis. ExxonMobil also targets California
16 with advertising, such as radio spots related to its ongoing efforts to advance plastic-friendly
17 legislation in the State. As recently as within the last year, ExxonMobil targeted online
18 advertisements to Californians regarding "advanced recycling." ExxonMobil has funded
19 numerous lobbying efforts, directly and through trade associations and industry groups, to defeat
20 regulations that would reduce the harm to humans and the environment from its plastic products
21 in California and nationwide.

22 48. ExxonMobil has also sought to establish business connections under its
23 "advanced recycling" program with California municipalities.

24 49. Finally, ExxonMobil has supplied substantial quantities of fossil fuel products

25
26 ⁹ Through this Complaint, the People of the State of California are not challenging
27 "lobbying efforts" per se, but rather this action challenges the illegal acts in violation of
California law that may be connected to these lobbying efforts. These lobbying efforts also
exemplify ExxonMobil's significant contacts with California.

28 ¹⁰ Extended producer responsibility ("EPR") is a policy of assigning the end-of-life
responsibilities and costs of a product to the producer of that product.

1 to California. Currently, ExxonMobil promotes, markets, and sells gasoline and other fossil fuel
2 products to California consumers through approximately 600 Exxon- and Mobil-branded
3 petroleum service stations in California.

4 50. Venue is proper in this Court pursuant to California Code of Civil Procedure
5 section 394 because Defendants conduct business in San Francisco County and throughout
6 California, and the violations of law and the public nuisance alleged in this Complaint occurred in
7 San Francisco County and throughout California.

8 **II. EXXONMOBIL'S DECEPTIVE MARKETING IN CALIFORNIA.**

9 51. ExxonMobil purposefully directed deceptive conduct toward California by
10 marketing, advertising, and promoting petrochemical plastics products as sustainable.
11 ExxonMobil made statements in furtherance of its campaign of deception about the efficacy of
12 plastic recycling, including about "advanced recycling," and affirmatively promoted recycling
13 technology as able to solve the plastic waste and pollution crisis. ExxonMobil made these
14 statements knowing that plastic recycling is inadequate to stop or reverse the plastic waste and
15 pollution crisis. These statements were designed to conceal and mislead consumers, including the
16 State, its businesses, and its residents about the serious adverse consequences that would result
17 from continued use of plastic products, including ExxonMobil's virgin and/or recycled plastics
18 materials and products containing those materials.

19 52. ExxonMobil promoted plastic recycling in a manner that directly and
20 foreseeably impacted and continues to impact California, with knowledge that the intended use of
21 its plastic products harmed and will continue to harm California and elsewhere. ExxonMobil
22 purposefully directed its misleading conduct to reach the State, its businesses, and its residents, to
23 promote the continued and unabated use of plastics products, including ExxonMobil's plastics
24 products, in California and elsewhere. These deceptions have resulted in significant injuries in the
25 State while increasing sales to ExxonMobil.

26 53. Over the past several decades and continuing to the present day, ExxonMobil
27 and/or its agents, servants, alter-egos and/or abettors named above ran extensive print, radio,
28 television, online, social media, and outdoor advertisements in the California market that

1 deceptively promoted recycling technology as a key solution that would reverse or substantially
2 mitigate those harms.

3 54. Since at least 1988, ExxonMobil has deceptively promoted recycling as a key
4 solution to the plastic waste and pollution crisis in print publications circulated widely to
5 California consumers, including but not limited to: *San Francisco Examiner*, *Los Angeles Times*,
6 *Sacramento Bee*, *Oakland Tribune* (now known as the *East Bay Times*), *Victorville Daily Press*,
7 *Simi Valley Star Enterprise*, *Lompoc Record*, *Signal*, *Record Searchlight*, and numerous other
8 California newspapers, as well as national publications with strong circulation in California,
9 including but not limited to *The New York Times*.¹¹ ExxonMobil has also used social media
10 platforms with a significant user base in California, including but not limited to Meta (Facebook),
11 X (formerly Twitter), and YouTube, to spread misinformation about the efficacy of plastics
12 recycling at a scale to address the plastics waste and pollution crisis. As further detailed below,
13 these campaigns have included advertisements containing false or misleading statements,
14 misrepresentations, and/or omissions designed to encourage the consumption of plastics products,
15 including ExxonMobil's plastics products, by falsely reassuring consumers that they can continue
16 using plastics because recycling, including "advanced recycling," is an effective solution to the
17 plastic waste and pollution crisis, and/or misrepresenting ExxonMobil's products or ExxonMobil
18 itself as environmentally friendly.

19 55. ExxonMobil, through vertically integrated segments and divisions, furthers its
20 campaign of deception by: (1) misrepresenting the recyclability of plastics; (2) omitting or
21 misstating the limited availability and efficacy of plastic recycling; and (3) affirmatively
22 promoting the company's plastic-input products as recyclable and/or made from recycled plastics.
23 ExxonMobil furthers this deception despite knowing the inadequacy and unavailability of plastic
24 recycling at scale and the human and environmental harms that necessarily result from the
25 intended use of ExxonMobil's plastic-input products.

26
27 ¹¹ Exxon has a long history, dating back to 1970, of running influential advertising
28 campaigns framed as public interest opinion editorials in major national newspapers including
The New York Times, *Washington Post*, *Wall Street Journal*, *Chicago Tribune*, and *Los Angeles Times*. For many years, these advertisements ran weekly.

1 56. ExxonMobil, by and through industry groups and other organizations, worked
2 to conceal and misrepresent the known dangers of plastic; to knowingly withhold material
3 information regarding the consequences of using plastic products, the inefficacy of plastics
4 recycling; the infeasibility of plastic recycling to meaningfully scale, and the proportion of its
5 “certified circular polymers” actually sourced from recycled plastic waste materials; and to spread
6 knowingly false and misleading information to the public regarding the efficacy of plastics
7 recycling at a scale to address the plastics waste and pollution crisis.

8 57. ExxonMobil, through its own actions and through its membership and
9 participation in industry groups, engaged in this longstanding campaign to promote continued and
10 increased use of plastics products, including ExxonMobil's plastics petrochemical products,
11 which it knew would result in injuries to the State and elsewhere.

12. ExxonMobil and DOES 1-100 (collectively, “Defendants”) committed
13. substantial acts to further its deceptive practices in California by making affirmative
14. misrepresentations or omissions to California consumers about the existence, causes, and effects
15. of plastic pollution and the efficacy of recycling; and by affirmatively promoting plastics
16. products, including ExxonMobil’s plastics petrochemical products, as safe and environmentally
17. friendly. Defendants committed this deception with knowledge of the extremely harmful impacts
18. that would result from the intended and foreseeable use of those products. A substantial effect of
19. Defendants’ actions has and will occur in California, as the State has suffered and will suffer
20. injuries from ExxonMobil’s wrongful conduct. ExxonMobil knew—based on information
21. provided to it from its internal research divisions, affiliates, trade associations, and industry
22. groups—that its actions in California and elsewhere would result in these injuries in and to the
23. State. Finally, the harmful effects described herein are the direct and foreseeable results of
24. ExxonMobil’s conduct in furtherance of the conspiracy.

FACTUAL BACKGROUND

I. EXXONMOBIL IS SUBSTANTIALLY RESPONSIBLE FOR CAUSING AND EXACERBATING THE PLASTIC WASTE AND POLLUTION CRISIS, WHICH IS CAUSING DEVASTATING HARM.

A. The Plastic Waste and Pollution Crisis.

1 59. ExxonMobil is the world's largest producer of plastic polymers, the building
2 blocks of single-use plastics that become plastic pollution.

3 60. The excessive amount of plastic waste and pollution is one of the most serious
4 environmental crises confronting California and the planet today.¹² Plastic pollution is
5 proliferating in oceans, seas, rivers and lakes, accumulating at or near the surface, on lake and
6 ocean bottoms, and along riverbanks and shorelines.¹³ And plastic waste has found its way into
7 every corner of the globe—from remote marine environments¹⁴ to the deepest point of the ocean
8 floor, on the highest mountains, in rock formations, and floating in the air.¹⁵ According to the
9 U.S. Environmental Protection Agency's (EPA) latest estimates, approximately 23 percent of
10 global plastic waste was improperly disposed of, burned (creating harmful and toxic emissions),
11 or leaked into the environment in 2019.

12 61. Widespread production and promotion of single-use plastic has led to persistent
13 plastic leakage into the environment.¹⁶ Around the world each year, an estimated 11 million
14 tonnes of plastic waste become aquatic pollution and 18 million tonnes are polluted to land.
15 Together, that is the equivalent of four garbage trucks of plastic waste polluted in the water or
16 land *every minute*.¹⁷ In the United States—even with its advanced solid waste management
17 system—as much as 1.45 million tonnes of plastic was polluted to the ocean in 2016.¹⁸ Plastic
18 products account for approximately 85 percent of total marine waste and between 70 to 80
19
20

21 ¹² Merkl and Charles, The Minderoo Foundation, *The Price of Plastic Pollution: Social*

22 Costs and Corporate Liabilities

22 (2022) p. 7 (hereafter Minderoo 2022).

23 ¹³ Corcoran et al., *An Anthropogenic Marker Horizon in the Future Rock Record* (2014)

24 GSA Today 4.

25 ¹⁴ Trainic et al., *Airborne Microplastic Particles Detected in the Remote Marine*

26 Atmosphere

26 (2020) 1 Communications Earth and Environment 64.

27 ¹⁵ World Health Organization, Dietary and Inhalation Exposure to Nano- and Microplastic

28 Particles and Potential Implications for Human Health (2022) pages 13-44.

29 ¹⁶ Organization for Economic Cooperation and Development (OECD), *Plastic Pollution is*

30 *Growing Relentlessly as Waste Management and Recycling Fall Short, Says OECD* (Feb. 22,

31 2022) <[https://www.oecd.org/environment/plastic-pollution-is-growing-relentlessly-as-waste-](https://www.oecd.org/environment/plastic-pollution-is-growing-relentlessly-as-waste-management-and-recycling-fall-short.htm)

32 [management-and-recycling-fall-short.htm](https://www.oecd.org/environment/plastic-pollution-is-growing-relentlessly-as-waste-management-and-recycling-fall-short.htm)> (as of July 29, 2024).

33 ¹⁷ Lau et al., *Evaluating Scenarios Toward Zero Plastic Pollution* (2020) 269 Science

34 1455.

35 ¹⁸ Law et al., *United States' Contribution of Plastic Waste to Land and Ocean* (2020) 6

36 Science Adv. 2375.

1 percent of all waste that ends up on land or in marine environments combined.¹⁹

2 62. In California, from 1990 to 2022, an astounding 2.7 to 3.3 million tonnes of
3 plastic waste escaped into California's environment. In 2022 alone, estimates of the amount of
4 plastic waste leaked to land and into the ocean in California ranged from 121,324 to 179,656
5 tonnes—the equivalent of dumping 20 to 30 garbage trucks of plastic waste *per day* into
6 California's landscapes and waterways.

7 63. The steep increase in plastic production over the past 60 years, as depicted in
8 Figure A, created a dramatic increase in plastic waste: in the United States, plastic increased as a
9 percent of municipal solid waste (by mass) from 0.4 percent in 1960 to 12.2 percent in 2018.²⁰ An
10 estimated 44 million tonnes of plastic waste were generated in the United States in 2019.
11 Meanwhile, the plastic recycling rate in the United States in 2019 was estimated to be a mere five
12 percent. As new plastic production relentlessly rises, the generation of plastic waste inevitably
13 increases.

14 64. Nearly two-thirds of total plastic waste comes from products that are discarded
15 within five years of purchase, such as packaging (40 percent), consumer products (12 percent),
16 and textiles (11 percent).²¹ Single-use plastics—plastic packaging, bags, straws, and disposable
17 plasticware and utensils—represent the largest plastics application, and account for one-third of
18 all plastics consumed globally.²²

19 65. Single-use plastics comprise most of the plastic waste that escapes and/or is
20 discharged into the environment.²³ Rising production of single-use plastics and the consequent
21 rise of plastic waste and pollution has contributed to such phenomena as the “great Pacific
22 garbage patch,” consisting of several vast swirling gyres of floating plastic pieces dispersed over

23
24 ¹⁹ U.S. Environmental Protection Agency, Draft National Strategy to Prevent Plastic
Pollution (2023).

25 20 Com. on the U.S. Contributions to Global Ocean Plastic Waste, Nat. Academy
Sciences, Engineering, and Medicine, Reckoning with the U.S. Role in Global Ocean Plastic
26 Waste (2022) page 3. (Additionally, the generation of municipal solid waste in the United States
has increased significantly over the past 60 years).

27 21 Organization for Economic Cooperation and Development (OECD), *Plastic Pollution is
Growing Relentlessly as Waste Management and Recycling Fall Short*, *supra*.

28 22 Minderoo 2023, *supra*, page 17.

23 *Ibid.*

1 a huge surface of the Pacific Ocean and throughout the upper portion of the ocean column.

2 66. Plastic pollution has pervasive consequences at the local, regional, and state
3 levels in California, for the environment, the state's unique natural and recreational resources, the
4 economy, and potentially for human health.²⁴ Plastic pollution causes substantial, persistent, and
5 ongoing harm to California's unparalleled coastal recreational resources, residents, tourism, and
6 local economies.²⁵ Plastic waste visibly pollutes California's beaches, rivers, waterways and
7 marine environments, fouls recreational areas, and threatens marine life and sensitive habitats and
8 ecosystems.²⁶

9 **Figure D: Ballona Creek leading to Santa Monica Bay (Photo Credit: Bill MacDonald,
10 Algalita Research Foundation)**



22 67. Plastic waste has devastating effects on California's wildlife. Plastic waste
23 entangles and endangers California marine life, including seals, sea birds, sea turtles, whales, and
24 dolphins, resulting in hindered movement, decreased feeding ability, injury, and death.²⁷ Plastic

25 _____
26 ²⁴ Cal. Ocean Protection Council and Nat. Oceanic and Atmospheric Admin. Marine
Debris Program, California Ocean Litter Prevention Strategy: Addressing Marine Debris from
Source to Sea (2018) page 10 (hereafter, OPC 2018).

27 ²⁵ *Id.* at page 38.

28 ²⁶ *Id.* at page 10.

²⁷ *Id.* at page 37.

1 waste is ingested by California raptors and sea birds, with devastating impacts on bird fitness and
2 survival. Plastic waste smothers sensitive coastal and wetland habitats,²⁸ including coral reefs and
3 salt marshes, and disrupts growth and surface cover.²⁹ Plastic debris inhibits the growth of aquatic
4 vegetation, decreasing spawning areas and habitats for fish and other living organisms,
5 threatening marine biodiversity and the food web.³⁰

6 68. Even managed plastic waste contributes to plastic pollution of the environment.
7 As plastic waste degrades in landfills, microplastics are released into the surrounding
8 environment, including contamination of soil, groundwater, and surface water by air and by
9 leachate.³¹

10 69. Once plastic waste enters the environment as pollution, it is long-lived,
11 cumulative, friable, and mobile, and can have substantial negative impacts on a wide range of
12 freshwater, marine, and terrestrial species. Removing plastics from the environment becomes
13 difficult and costly as plastics fragment into smaller and smaller pieces.

14 **B. The Microplastics Pollution Crisis.**

15 70. Plastics do not biodegrade.³² Exposed to the elements, plastics that have leaked
16 into the environment inevitably disintegrate into smaller and smaller pieces until they eventually
17 become “microplastics,” tiny plastic bits measuring five millimeters or less, that are readily
18 transported by air, wind, water, and the fecal matter of organisms that ingest them. Microplastic
19 pollution has been identified as one of the most widespread and long-lasting anthropogenic
20 changes to the surface of the Earth, and a great threat to a wide range of species and ecosystems.

21 ///

22 _____
23 ²⁸ *Id.* at page 5.

24 ²⁹ *Id.* at page 37.

25 ³⁰ Thevenon et al., Internat. Union for Conservation of Nature, Plastic Debris in the
26 Ocean: The Characterization of Marine Plastics and their Environmental Impacts, Situation
27 Analysis Report (2015) page 17.

28 ³¹ Leachate is a solution or product obtained by leaching, especially from landfills or other
29 sources.

30 Plastic materials do not exist in nature, and therefore there are no naturally occurring
31 organisms that can break them down effectively or at all. It is estimated that under normal
32 conditions in nature, plastic bottles will begin to break down only after 500-700 years; plastic
33 bags will begin to break down only after a thousand years, and even then, the process will be very
34 slow.

1 71. Microplastics have been detected in the deep sea, in freshwater bodies, and
2 groundwater; in soils and in sediments; on mountaintops; and in the air we breathe. Microplastics
3 are ingested by marine organisms,³³ and have been found in fish and other aquatic species, with
4 observed adverse effects including altered feeding habits, tissue inflammation, impaired growth,
5 developmental anomalies, and reductions in reproductive success.³⁴

6 72. Microplastics can be particularly dangerous to wildlife; when eaten,
7 microplastics have been found to accumulate inside an animal's body, causing a variety of critical
8 health issues. Microplastics have been found to both absorb and adsorb³⁵ toxic chemicals that are
9 harmful to aquatic life. Laboratory studies show that chemicals released from microplastics can
10 transfer up the food chain, potentially affecting the health of species at all levels of the ecosystem.

11 73. On land, microplastics have been found in the guts and feces of a variety of
12 land-based wildlife, including birds, small mammals, and insects. Ingestion of microplastics has
13 negative impacts on the health of these species, including reducing fitness and altering immune
14 system functions.³⁶

15 74. Microplastic pollution has been identified as an emerging global threat to
16 terrestrial ecosystems, remaining persistent and mobile in soil environments. Microplastics affect
17 soil biota, decrease seed germination, and inhibit plant growth and productivity. Microplastic
18 contamination of agroecosystems can reduce food yields, and negatively impact food chain
19 components and food security. Once dispersed into the environment, microplastics are almost
20 impossible to eradicate.

21 ///

22 ///

23 ///

24 ³³ OPC 2018, *supra*, at pages 5, 10.

25 ³⁴ Sarkar et al., *Microplastic Pollution: Chemical Characterization and Impact on Wildlife*
26 (2023) 20 Internat. J. Environmental Research and Public Health 1745; see also Besseling et al.,
27 *Effects of Microplastic on Fitness and PCB Bioaccumulation by the Lugworm Arenicola marina*
(L.) (2012) 47 Environmental Science & Technology 593; Cal. Ocean Protection Council,
Statewide Microplastics Strategy (2022) page 4 (hereafter OPC 2022).

28 ³⁵ “Adsorb” means to take up and hold or attach to the surface of another substance.

³⁶ Sarkar et al., *supra*.

1 **C. Microplastics Likely Have Negative Human Health Consequences.**

2 75. As studies emerge regarding the effects of microplastics on human health, they
3 point to potentially dire consequences. Humans are exposed to microplastics predominantly
4 through inhalation of tiny plastic particles suspended in indoor and outdoor air, and through
5 ingestion of microplastic particles found in water, food, and other beverage sources.³⁷ A 2018
6 study of 259 bottled water samples across 19 different locations in nine countries, including the
7 U.S., found 93 percent were contaminated with microplastic—on average, 10.4 microplastic
8 particles per liter.³⁸ Other studies have found microplastics in globally sourced tap water samples,
9 American-made beer, and commercial sea salt.

10 76. Once inhaled or ingested by humans, microplastic particles have been found to
11 lodge in the respiratory or digestive tract.³⁹ Particles can then be absorbed through the small
12 intestine and lungs and distributed throughout the body to other organs via the circulatory system.
13 Microplastics have been found accumulating in the human gut, lungs, and bloodstream. Even
14 more alarming are recent discoveries of microplastics in the human reproductive system, such as
15 the male testis, mammary glands (breastmilk), and placental tissue. Studies are finding evidence
16 that microplastics can enter human cells and can even cross the blood-brain barrier in mammals.

17 77. Microplastics' physical presence in the human body has been associated with
18 chronic inflammation, oxidative stress, and cytotoxicity (potentially increasing cancer risk).
19 Studies also indicate that chemicals adsorbed by microplastics consumed by people through food
20 or other routes of exposure can desorb in the human body and have toxic impacts. Some chemical
21 additives to plastic, such as phthalates, bisphenol A (BPA), and per- and polyfluoroalkyl
22 substances (PFAS), are recognized as toxic chemicals that impact the endocrine, reproductive,
23 and other systems.⁴⁰

24 ///

25

26 ³⁷ World Health Organization, *supra*, at pages 13-44.

27 ³⁸ Mason et al., *Synthetic Polymer Contamination in Bottled Water* (2018) 6 *Frontiers in*
28 *Chemistry* 407.

29 ³⁹ World Health Organization, *supra*, at pages 13-44.

30 ⁴⁰ UNEP, *From Pollution to Solution: A Global Assessment of Marine Litter and Plastic*
31 *Pollution* (2021).

1 78. A recent study found that patients with carotid artery plaque in which
2 microplastics were detected had a higher risk of a composite of myocardial infarction, stroke, or
3 death (from any cause) than those patients in whom microplastics were not detected. Other
4 studies indicate that microplastics particles can be vectors for disease or other toxic transmission
5 because they can adsorb and transmit human pathogenic microbes, parasites, or other
6 contaminants when inhaled or ingested by humans.

7 79. Published research also points to wide-ranging potential neurotoxicity,
8 pulmonary toxicity, hepatotoxicity, cardiotoxicity, reproductive toxicity, and nephrotoxicity in
9 human beings resulting from microplastics exposure. While the full health effects of human
10 exposure to microplastics and the potential for accumulation of microplastics in human tissues
11 remain unknown, the existing research indicates potentially severe, and even deadly, impacts.

12 **D. ExxonMobil Substantially Contributes to the Plastic Waste and Pollution
13 Crisis.**

14 80. ExxonMobil produces the primary chemicals and polymers used to produce
15 plastic and styrofoam products such as bottles, cups, plates, utensils, take-out containers, and
16 packaging designed for single-use that are sold throughout the United States and in California.
17 ExxonMobil considers the production of these polymers as the “core” of its chemicals and
18 products portfolio and sees 80 percent of its growth potential as “dependent on single-use plastics
19 applications.”

20 81. ExxonMobil produces more virgin polymers bound for single-use plastic
21 production than any other petrochemical company,⁴¹ and is the world’s largest contributor to
22 single-use plastic waste.⁴² ExxonMobil’s polymer products are used to make the plastic items
23 most commonly and consistently picked up on California shorelines, including food wrappers and
24 takeout containers; caps and lids; plastic bags; cups, utensils and plates; straws and stirrers; and
25 beverage bottles. These are among the top 10 categories of debris items consistently picked up on
26 California beaches and riverbanks on Coastal Cleanup Day over the past 34 years. ExxonMobil’s

27

⁴¹ Minderoo 2023, *supra*.

28 ⁴² *Id.* at page 12.

1 polymer products are also used to make six-pack beverage rings and mylar balloons, items that
2 commonly blight California shorelines and parks.

3 82. The inescapable consequence of ExxonMobil producing billions of pounds of
4 plastic is the plastic waste and plastic pollution crisis. There is a direct relationship between the
5 rise in plastic production and the rise in plastic pollution—a recent comprehensive study of
6 plastic pollution audits in *Science Advances* found “a 1% increase in [plastic] production, result[s]
7 in approximately a 1% increase in branded plastic pollution.” The study compiled over 1,500
8 audits of over 1.8 million plastic items and concluded that waste management is insufficient to
9 stop plastic pollution. Instead, “reduced plastic production is a primary solution to curb plastic
10 pollution,” and that, in particular, “[p]hasing out single-use and short-lived plastic products by the
11 largest polluters would greatly reduce global plastic pollution.”

12 83. California has identified source reduction as one of the top priorities for
13 addressing this plastic pollution crisis.⁴³ Source reduction will reduce the burden on waste
14 management systems and prevent plastic waste from reaching the environment.⁴⁴

15 84. California has borne the burden of the harmful economic, environmental, and
16 potential human health impacts of ExxonMobil’s deceptions, which have resulted in the deluge of
17 plastic waste, while ExxonMobil has recorded record profits (\$36 billion in profits in 2023).
18 Indeed, as stated above, ExxonMobil recently opposed a shareholder proposal to issue a report on
19 how reducing virgin plastic production to reduce ocean plastic pollution would affect
20 ExxonMobil’s financial position in 2022.

21 **II. FOR DECADES, EXXONMOBIL DECEPTIVELY PROMOTED MECHANICAL
22 RECYCLING AS THE SOLUTION TO THE PLASTIC WASTE AND POLLUTION CRISIS.**

23 85. Particularly after the Great Depression, Americans were not accustomed to the
24 concept of throwing anything away. To change this behavior, in the 1950s and 1960s,
25 ExxonMobil’s predecessor companies actively sought to normalize single-use plastic products.
26 They were successful. Demand for plastic products began to rise but so did the inevitable

27 ⁴³ OPC 2022, *supra*; OPC 2018, *supra*. Source reduction refers to a net reduction in the
28 generation and production of plastic waste. See Public Resources Code section 40196.

⁴⁴ OPC 2022, *supra*; OPC 2018, *supra*.

1 pollution. By the late 1960s and 1970s, the public began demanding action to reduce or eliminate
2 production of plastic products. In response, ExxonMobil's predecessors participated in industry-
3 wide efforts to promote so-called "solutions" to plastic waste such as landfilling and incineration.
4 When these efforts were unsuccessful at quelling public outcry, a small number of petrochemical
5 companies including Exxon and Mobil began a decades-long campaign that began in the 1980s to
6 convince the public that mechanical recycling would solve the plastic waste and pollution crisis.
7 This campaign, which is ongoing today, succeeded in convincing the public that plastics were
8 recyclable. This gave ExxonMobil cover for decades to continue producing more and more
9 plastic unchecked. All the while, the plastic recycling rate has never broken nine percent, even
10 when the U.S. was exporting massive amounts of plastic waste to China under the guise of
11 recycling.

12 A. ExxonMobil Encouraged the Public to Live a Throw-Away Lifestyle and
13 Normalized the Consumption of Unnecessary Single-Use Plastics to Fuel
 Demand for ExxonMobil's Plastic Products.

14 86. ExxonMobil and the plastics industry have promoted plastics to Americans for
15 decades. The Society of the Plastics Industry (SPI), of which Exxon and Mobil were each
16 members (before they merged to become ExxonMobil), formed in 1937 for the primary purpose
17 of building public acceptance of plastics.

18 87. Initially, SPI and the plastics industry promoted the durability of plastics.⁴⁵
19 However, “it didn’t take long for the industry to recognize that disposables were the route to
20 growth, and for a prosperous public to get comfortable with the idea of throwing plastic
21 packaging away.”⁴⁶ When disposable plastic cups first became available, people would save and
22 re-use them, but the industry confidently predicted that “[i]t is only a matter of time until the
23 public accepts the plastics [sic] cups as more convenient containers that are completely
24 discardable.”⁴⁷ Manufacturers of all kinds marketed the disposable commodity “under the
25 alluring dual banner of cleanliness and convenience.”⁴⁸

⁴⁵ Freinkel, Plastic: A Toxic Love Story (2011) page 145.

46 *Ibid.*

⁴⁷ Rogers, *Gone Tomorrow: The Hidden Life of Garbage* (2005) page 122.

⁴⁸ *Id.* at page 115.

1 88. The plastics industry decided to convince the public that plastic products were
2 necessary. “Not a single solid market for plastics in existence today was eagerly waiting for these
3 materials.”⁴⁹ But as time went on, plastics replaced natural materials and often became the only
4 choice available to consumers, regardless of actual consumer preferences.⁵⁰

5 Figure E: Life Magazine Depicting the Throw Away Culture That Was Promoted from
6 1955 Previewing a Consumer Market and Society Flooded with Single-Use Plastic



21 89. “At the SPI’s [] 1956 national conference, participants were told that
22 ‘developments should be aimed at low cost, big volume, practicability, and *expandability*.’ In
23 short, the producers’ aim should be for their products to end up ‘in the garbage wagon.’”⁵¹
24 Reusable packages could account for thousands of units sold, but those “used once and thrown

⁴⁹ Freinkel, *supra*, at page 142 (quoting a June 1956 article in the trade journal *Modern Plastics*).

⁵⁰ Rogers, *supra*, at page 123.

⁵¹ Allen et al., Center for Climate Integrity, The Fraud of Plastic Recycling: How Big Oil and the Plastics Industry Deceived the Public for Decades and Caused the Plastic Waste Crisis (Feb. 2024) page 5 (quoting *Plastics in Disposables and Expendables* (1957) 34 Modern Plastics 93 [emphasis in original]).

1 away” represent “an everyday recurring market measured by the *billions* of units.” The same
2 speaker praised the industry seven years later for “filling the trash cans, the rubbish dumps and
3 the incinerators with literally billions of plastic bottles, plastic jugs, plastic tubes, blisters and skin
4 packs, plastic bags and films and sheet packages—and now even plastic cans. The happy day has
5 arrived when nobody any longer considers the plasticss [sic] package too good to throw away.”

6 90. Both Exxon and Mobil have been leaders in plastic production since at least the
7 1960s. Mobil (pre-merger) formed the Mobil Chemical Company in 1960, a new division of
8 Mobil that was tasked with carrying out the company’s petrochemical activities. By 1966, Mobil,
9 the “leading producer of polyethylene film[,] . . . had already developed an extensive line of
10 substitutes for paper packaging. Its bag-on-a-roll had replaced paper sacks in grocers’ produce
11 sections and its Hefty trash bags helped alter people’s longtime habit of lining their garbage pails
12 with newspaper.”⁵²

13 91. As of 1969, Mobil invented a range of consumer products that used its plastic
14 polymers, most of which were intended to be thrown away, ranging all the way from plastic
15 squeeze bottles to automobile parts.” This included selling polystyrene “Mobilfoam” egg cartons
16 and developing BICOR (“a Mobil-developed family of oriented polypropylene films”), a
17 replacement for cellophane. Around this time, Mobil began a heavy marketing campaign to
18 promote plastics. Mobil’s advertisements appeared as announcements on NBC’s *Today* and
19 *Tonight* shows, offering coupons for purchase of Hefty trash can liners.

20 92. By the 1970s, Mobil owned ten plastics packaging plants in the United States.
21 Mobil’s plastic production facilities included a polystyrene plant in Bakersfield, California and a
22 polyethylene film plant in Woodland, California. Additionally, Mobil’s ethylene plant in
23 Beaumont, Texas, produced a key building block for plastics. Mobil added a polyethylene plant in
24 Beaumont in the mid-1970s. Mobil boasted it was “number 1 in disposable plastics.”

25 93. In the late 1970s, Mobil invented even more additional plastic products
26 designed to replace existing products made out of other materials—plastic grocery sacks, plastic
27 shopping bags, and containers for fast food. Mobil additionally created disposable foam plates

28 ⁵² Freinkel, *supra*, at page 143.

1 and drinkware under the Hefty brand as well as a new stretch film—Mobilrap X stretch film. In
2 1971, Mobil held a “Bag Your Trash” promotion in 60 cities to encourage the use of plastic trash
3 can liners. Mobil encouraged the public to purchase and/or use these and other plastic products,
4 all of which were designed for a single use and then tossed.

5 94. Mobil also created novel plastic products that did not necessarily have an
6 existing equivalent, but nevertheless provided a use for Mobil’s burgeoning plastic production.
7 Examples include Mobil’s “Guestware,” a line of disposable polystyrene avocado-green
8 dinnerware designed to be presentable for guests without the work of washing dishes, or the
9 “Hefty Fashion Plate,” a premium version of the regular Hefty disposable plates. Through the
10 creation of such products, Mobil encouraged consumers to habitually rely on and dispose of
11 plasticware rather than reusable products, sustaining Mobil’s plastic business.

12 95. Exxon and Mobil promoted the use and disposal of plastic products through the
13 Society of the Plastics Industry (SPI). SPI, at its annual meeting, reported that it deployed a
14 female employee to women’s groups in the Midwest to explain the benefits of plastics. The
15 plastics industry’s efforts were specifically directed to making plastics more appealing,
16 encouraging a “throw away” culture, and focusing on anti-litter laws to shift the plastic waste and
17 pollution crisis to consumers.

18 96. Mobil expanded its production and promotion of plastic products marketed for
19 single use in the 1980s and 1990s. By the late 1980s, Mobil was leading the plastics industry’s
20 replacement of paper grocery bags with plastic grocery sacks and led the industry in the
21 manufacture and sale of pallet-wrap stretch film. Mobil sold more than 20 billion plastic bags a
22 year as of 1987.

23 97. Mobil enlisted children participating in Boy Scouts of America to sell Hefty
24 trash and kitchen bags and distribute coupons for future purposes, as a fundraiser for their
25 scouting troops. A scientist from Exxon met with more than 2,000 students and other community
26 members to teach the students that plastic packaging is better for the environment than other
27 materials. The industry also made efforts to disseminate pro-plastics and plastic recycling
28 information to educators and students. For instance, the Council for Solid Waste Solutions

1 proposed two programs to inform teachers how to educate students about plastics in an effort to
2 ward off teachers' and students' "efforts to boycott—and even ban—some plastics products,
3 based on misleading and incorrect information." In another instance, the Vinyl Institute published
4 a booklet entitled "Plastics in the Waste Stream: Options for Practical Solid Waste Management"
5 for teachers to utilize.

6 98. Mobil acquired U.S. marketing rights for Baggies food storage bags in 1983,
7 which it previously produced for Colgate Palmolive. Mobil also developed new films for
8 wrapping candy bars, chips, and snack foods, changing the way these common products were
9 packaged for decades in the future. Thirty-five percent of the sales of Mobil's new oriented
10 polypropylene (OPP), originally designed for packing candy, snacks, and similar items, were for
11 "products that didn't even exist five years ago." Mobil asserted that OPP was environmentally
12 friendly because it did not take up much space in landfills. Yet, Mobil's production of OPP was
13 growing by eight percent a year and Mobil predicted that its worldwide production would exceed
14 400 million pounds a year by 1994 despite knowing that these products would end up in landfills.

15 99. Mobil continued to expand its lines of single-use plastic dishes, such as Hefty
16 plates with new designs and patterns, the sturdier "Placesetter" line of dishes, and hinged-lid
17 polystyrene containers for food items. In 1985, Mobil worked with McDonald's to develop a
18 menu item based on specialized Mobil polystyrene packaging—a dual-chambered container that
19 had a "hot side" for the burger itself and a "cool side" for the lettuce and tomato toppings.

20 100. Mobil purchased Tucker Housewares, manufacturer of plastic houseware
21 products, in 1990. In 1991, Mobil marketed 35 new products, including resins (a substance
22 typically converted into polymers) and new packaging films. And in 1993, Mobil created a new
23 line of plastic, microwaveable containers. Mobil also continued to market and expand sales of its
24 existing product lines, expanding manufacturing capacity for its Hefty bags, plastic grocery bags,
25 and foam plates.

26 **B. ExxonMobil Knew that Its Promotion and Production of Plastic Products**
27 **for a Throw-Away Lifestyle Caused a Solid-Waste Crisis Without a**
 Solution.

28 101. Exxon's and Mobil's success in promoting disposable products and single-use

1 plastics in the 1950s and 1960s resulted in foreseeable consequences.⁵³ By the late 1960s,
2 ecological concerns threatened the plastics industry.⁵⁴ “Ecological concerns increased so steadily
3 after the first Earth Day of 1970 that insiders feared the crisis might ‘really end the industry.’
4 Plastics’ reputation was worsening even as the stuff itself flowed from refineries and molding
5 plants at an ever increasing rate.”⁵⁵ In 1971, author Barry Commoner wrote about the
6 indestructability of plastics: “it was ‘sobering,’ he wrote, ‘to contemplate the fate of the billions
7 of pounds of plastics already produced.’”⁵⁶

8 102. Indeed, by the early 1970s, disposable and single-use plastics were named as a
9 cause of the developing plastic waste and pollution crisis.⁵⁷ As plastic waste seeped into the
10 environment, a worried public began pushing for restrictions and bans. Plastics industry insiders
11 denied blame for the plastic waste and pollution crisis. Yet the industry, including Mobil and
12 Exxon, realized that they needed to convince the public that the problem was under control—or at
13 least make the public *believe* that this was the case.

14 103. Otherwise, Exxon, Mobil, and other plastics producers could face restrictions
15 on production. *Modern Plastics*, a prominent plastics industry journal, warned companies of the
16 possibility that “well meaning but misinformed authorities step in with homemade remedies and
17 regulations,” and advised industry to figure out its own solution to avoid the pushback on
18 plastic.⁵⁸ SPI echoed this sentiment and encouraged its members, including Exxon Chemical and
19 Mobil Chemical, to band together:

20 We don’t want to sound like the prophet of doom, but we do feel it is necessary to
21 alert you to what we, as an industry, might face in the months ahead. It is even more
22 important that we unite all our forces to present a solid front in each and every area
23 critical to the industry’s continued success.

24 104. The plastics industry engaged in a public relations campaign to improve public

25 ⁵³ Allen et al., Center for Climate Integrity, *supra*, at page 7.

26 ⁵⁴ Meikle, American Plastic (1995) page 253.

27 ⁵⁵ *Id.* at page 264 (citing Swissair advertisement as quoted in *Answering the Critics* (May
1980) 57 *Modern Plastics* 34).

28 ⁵⁶ *Ibid.*

⁵⁷ Allen et al., Center for Climate Integrity, *supra*, at page 6.

⁵⁸ Meikle, *supra*, at page 265 (quoting Frados, *There’s Something in the Air* (1966) 4
28 *Modern Plastics* 89).

1 perception of plastic and plastic waste. Mobil and Exxon actively denied, through SPI, that
2 plastics materials caused environmental pollution or harm.

3 105. Alarmingly, internal documents from 1973 between SPI and its Public Affairs
4 Council reveal that the industry called individuals and groups concerned about plastic waste and
5 harms its “enemies”:

6 [W]e completed the most extensive study of what the various publics think of
7 plastics.... It was aimed at our environmental problems, of course—better defining
8 them, determining what **segments of the population are our “enemies”** and where
9 they get their misinformation.... We have been able to pinpoint problem areas,
problem people and problem press, and have begun our programs to get at the
minority which may mold majority opinion if ignored.

106. To assuage the public outcry, Mobil advertised in 1973 that “the plastics
11 industry is at work on a number of projects designed to turn waste into something useful. One
12 promising project involves mixing plastic scraps in concrete. The result is a material that’s as
13 strong as conventional concrete, but up to 15 percent lighter.” The project Mobil referred to was a
14 bridge reinforced with 30 percent plastic waste that eventually collapsed into a river.

107. In the 1970s, Mobil’s Plastics Division formed an “Environmental Protection
11 Group,” headed by Robert Barrett, to “develop and disseminate facts” about its plastic products to
12 consumers and environmental groups, in response to what Mobil called “misinformation about
13 plastic packaging materials.” Specifically, Mobil planned to undermine legitimate concerns by the
14 public that burgeoning production of single-use plastic products would lead to environmental
15 harm, by misleading the public into believing that solutions existed to address the waste created
16 by Mobil’s products. But, as explained below, Mobil knew that the most developed solutions to
17 addressing plastic waste at the time—incineration and landfilling—risked further harm to the
18 environment.

1 24 1. **By the 1970s, the plastics industry was aware of the ocean plastics
2 pollution crisis.**

108. The plastics industry, including Exxon and Mobil, was aware of ocean plastics
11 pollution by the 1970s, and began attempts to show the public that it was working with nonprofits
12 to study the issue. Yet, Exxon’s and Mobil’s public response was to blame others for the issue
13

1 while not taking any action.

2 109. By the 1970s, scientists were publishing studies and reports on the presence of
3 ocean plastics pollution. A 1976 study discovered plastic in nine species of seabirds in Monterey
4 Bay, California.⁵⁹ “Industrial pellets predominated in these birds, but they were also found to
5 contain pieces of food wrap, foamed polystyrene, synthetic sponge and pieces of rigid plastic.”⁶⁰

6 110. The plastics industry was also aware of ocean plastics pollution by the early
7 1970s. In 1972, Edward J. Carpenter, of Woods Hole Oceanographic Institute, announced that he
8 had discovered small pieces of plastic in the Long Island Sound “at a density of one to twenty
9 samples per cubic yard of water.”⁶¹ Carpenter—not wanting to embarrass the plastics industry
10 and hoping to work together to solve the problem—privately approached SPI’s new executive
11 vice president, Ralph L. Harding, Jr., to inform Harding that his discovery indicated that a plastic
12 processor was dumping polystyrene resin in the Long Island Sound.⁶² SPI then warily cooperated
13 with Carpenter to identify the culprit and end the spills.⁶³

14 111. Additionally, Exxon, Mobil, and the plastics industry knew as early as the
15 1970s that plastics break down into the environment. SPI reported that degradation of plastic
16 occurs when plastic is hit with ultraviolet radiation from sunlight, certain temperatures, moisture,
17 air, and microorganisms.⁶⁴ SPI also acknowledged that “foam products will break down and
18 ultimately disintegrate with exposure to sunlight and weather.”

19 112. Exxon, Mobil, and other SPI members additionally realized by the 1970s that
20 the disintegration of plastics into the environment could have potentially serious environmental
21 implications. As SPI explained, “[w]hen a material degrades, it releases products of
22 decomposition that could contaminate water supplies.” Moreover, Exxon and Mobil understood
23 that the consequences of this environmental contamination were unknown, even as both expanded

24 ⁵⁹ Ryan, *A Brief History of Marine Litter Research*, in Bergmann et al., *Marine
25 Anthropogenic Litter* (2015) page 8 (citing Baltz & Morejohn, *Evidence from Seabirds of Plastic
Particle Pollution of Central California* (1976) 7 *Western Birds* 111).

26 ⁶⁰ *Ibid.*

27 ⁶¹ Meikle, *supra*, at page 268.

28 ⁶² *Ibid.*

⁶³ *Ibid.*

⁶⁴ Glauz et al., *Society of the Plastics Industry and Society of Plastics Engineers, The
Plastics Industry in the Year 2000* (Apr. 1973) page 8.

1 their production of plastics, as “[t]he possible biological consequences of widespread,
2 uncontrolled degradation in this way need to be assessed.”

3 113. In 1973, the American Petroleum Institute, headed by Robert Barrett, studied or
4 funded publications for the National Academy of Sciences workshop called “Inputs, Fates, and
5 Effects of Petroleum in the Marine Environment.”⁶⁵ While the workshop’s focus was not on
6 plastics, one paper stated, “[i]n coastal waters, polystyrene spherules are abundant. . . . Bacteria
7 and polychlorinated biphenyls (PCB’s) are found associated with these particles, and the particles
8 are ingested by a number of aquatic organisms.”⁶⁶ “These studies provided early evidence not
9 only that plastics were accumulating in the ocean, but also that these plastics could serve as
10 aggregators of other contaminants, making them more hazardous.”⁶⁷ The National Academy of
11 Sciences also held another workshop in 1973 investigating marine litter, titled Assessing Potential
12 Ocean Pollutants.⁶⁸ The report stated, “[p]lastic objects are prominent in reports of litter
13 sightings although they are a minor component of the total refuse generated.”⁶⁹

14 114. By the 1980s, SPI and the plastics industry as a whole were well aware of the
15 ocean plastics pollution crisis.

16 115. By 1987, Congress was drafting bills to address ocean plastics pollution. The
17 plastics industry was also monitoring congressional and state endeavors to address the issue. This
18 included a letter SPI sent to its members discussing possible amendments to House of
19 Representatives bill 940 (“Plastic Pollution Research and Control Act of 1987”) that would
20 require the U.S. Environmental Protection Agency (EPA) to report information to Congress,
21 including: “(1) an identification of the types and classes of plastic materials in the marine
22 environment which are from land-based sources [and] (2) steps being taken by EPA to reduce the
23 amount of plastic materials that enter the marine environment from those sources.”

24 116. The plastics industry was aware of ocean plastic pollution, but failed to offer

25 ⁶⁵ Center for Internat. Environmental Law, Fueling Plastics: Plastic Industry Awareness of
26 the Ocean Plastics Problem (2017) page 2.

27 ⁶⁶ *Ibid.*

28 ⁶⁷ *Ibid.*

423). ⁶⁸ *Ibid* (citing Nat. Academy of Sciences, Assessing Potential Ocean Pollutants (1975) p.

69 *Id.* at pages 2-3.

1 any workable solutions. Acknowledging the growing problem, SPI testified in 1987 at a U.S.
2 Senate hearing on plastics pollution in the marine environment. SPI's Vice President of
3 Government Affairs, Lewis R. Freeman testified that "SPI recognizes that the problem of proper
4 disposal, particularly in the oceans, can sometimes create environmental problems." The Vinyl
5 Institute, "as a division of [SPI], . . . [also] participate[d] in a number of industry wide programs
6 established to address the issue of plastics in solid wastes, including the issue of marine
7 pollution."

8 117. By 1988, the ocean plastics pollution crisis was so pronounced that SPI
9 collaborated with the Center for Marine Conservation and the National Oceanic and Atmospheric
10 Administration to publish "A Citizen's Guide To Plastics In The Ocean: More Than A Little
11 Problem." The guide explained that the "[p]lastic debris found in the marine environment
12 generally falls into two categories: manufactured plastic articles and plastic resin pellets."
13 Further, the guide admitted that "[p]lastic trash in the ocean poses a growing threat for marine
14 wildlife, and a problem for communities and use groups who depend on the ocean."

15 118. In the 1990s, the fact that plastics were escaping into the ocean was receiving
16 increased attention. In 1990, SPI met with the EPA about EPA's concerns that plastic pellets were
17 found in various U.S. coastal environments, suggesting wide contamination in the marine
18 environment. EPA requested SPI's assistance surveying various plastics manufacturers,
19 processors, and pellet transporters to assess how plastics are making their way into the
20 environment. SPI planned to meet to discuss potentially taking voluntary action to address the
21 issue and assumed that EPA would otherwise force the industry to do so.

22 119. Shortly after this warning, SPI launched "Operation Clean Sweep" to encourage
23 the plastics industry to prevent losing pellets in the environment. Exxon hosted an "Operation
24 Clean Sweep" conference on this issue in 1992. But the initiative was largely performative, only
25 requiring participating companies to "watch videos, sign a form and promise not to lose any
26 pellets," without any follow-up measures to ensure the project's success.⁷⁰

27 ⁷⁰ Sullivan, *Big Oil Evaded Regulation and Plastic Pellets Kept Spilling*, NPR (Dec. 22,
28 2020) <<https://www.npr.org/2020/12/22/946716058/big-oil-evaded-regulation-and-plastic-pellets-kept-spilling>> (as of July 29, 2024).

1 120. Mobil published an ad in *The New York Times* in 1994 titled “The coast (should
2 be) clear.” While Mobil admitted that “[m]illions of pounds of debris wind up on beaches,” it
3 continued to blame others for the debris, claiming “[d]ebris can come from the sea—trash
4 dropped overboard from fishing vessels or ships—or it can come from the land-drainage system
5 overflows or beach-goers.” Mobil discussed its “support” of a nonprofit organization, the Center
6 for Marine Conservation, since 1986 by donating “several million trash bags to carry off the
7 debris.”

8 **2. Exxon and Mobil first proposed landfilling and/or incineration of
9 plastic waste.**

10 121. Against immense public backlash to plastic litter and under threat of regulation,
11 the plastics industry proposed two potential “solutions” in the 1970s: landfilling and incineration.
12 Landfilling addressed plastic litter and solid waste, while incineration addressed the public’s
13 unease with making plastic packaging from petrochemicals during the 1970s energy crisis.
14 Perceiving an urgent need to quell public outcry, Exxon and Mobil falsely claimed that plastic
15 waste was being handled. Exxon and Mobil evidently calculated that it was safer to assert that
16 landfilling and incineration were both capable of safely addressing plastic waste—even while
17 knowing this was not the case—rather than risk being forced to slow their growing plastics
18 businesses.

19 122. Throughout the 1970s, SPI and Mobil touted landfilling as a solution to the
20 solid-waste crisis and plastics as environmentally beneficial. The President of SPI said plastics
21 made ideal landfill material because “they don’t biodegrade,” they “just sit there.” SPI also
22 reported that “non-degradable plastics contribute to the stability of landfill, in contrast with many
23 other degradable materials which create problems such as settling, leaching, water pollution, and
24 production of methane gas.” Mobil echoed this message in multiple publications. “[P]lastic
25 doesn’t rot. It doesn’t produce methane gas that can cause fires and explosions or contaminants
26 than can pollute underground waters. In fact, plastic makes a good fill material.” Mobil also
27 advertised that “non-degradable polyethylene bags offer environmental advantages when
28 disposed of in dumps and landfills.” Similarly, Mobil publicized that polystyrene foam in landfills

1 “compacts easily and will not contribute to either air or water pollution.”

2 123. Along with landfilling, the industry, including Exxon and Mobil, favored
3 burning plastic waste, known as waste-to-energy incineration, as a means to address solid waste
4 and the energy crisis,⁷¹ even though this form of disposal involved clear environmental
5 consequences, such as air pollution. According to a report produced for SPI in 1973, “The
6 disposal of plastics via energy recovery and environmental incineration are two objectives that
7 really should be one. Use of the energy generated during incineration of a plastic product is
8 merely the ultimate in using petroleum in an effective manner for the public good.” SPI’s
9 President further explained, “we’d rather see plastics . . . go into a municipal power incinerator
10 which was a power plant.” In 1970, SPI published a paper stating that incineration is “the most
11 feasible method of solid waste disposal now, and that it will be for the foreseeable future.”

12 124. According to Mobil, “[a]s we run out of space for landfills, municipal
13 incineration will become an increasingly important means of waste disposal. The new incinerators
14 could also serve as power plants, using trash as fuel to generate electricity. And petroleum-
15 derived plastics will improve the quality of that fuel.”

16 125. To support incineration efforts, Mobil falsely reported that the incineration of
17 plastic waste was not harmful. On July 21, 1987, Mobil published an advertisement in the *Los*
18 *Angeles Times* titled, “*When it comes to solid waste, America’s policies are wanting*,” which
19 claimed that “[i]ncineration may be the best hope [to address plastic waste], especially for some
20 areas. While some environmentalists claim that burning trash may produce dioxins and other
21 pollutants, and cause an ash disposal problem, modern incinerators practically eliminate
22 emissions.” On February 23, 1988, Mobil published an advertisement in the *Sacramento Bee*
23 titled, “*Foam fast-food containers: The scapegoat, not the problem*,” which falsely claimed that
24 “[p]roper incineration of foam produces virtually nothing but harmless carbon dioxide and water
25 vapor.” In a June 26, 1988 *San Francisco Examiner* article titled “*War of words over foam*
26 *packaging*,” the author notes that “Mobil scientists said foam does not give off harmful chemicals
27 when burned properly.” Mobil publicly claimed “polyethylene bags can be burned in existing

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71 Allen et al., Center for Climate Integrity, *supra*, at page 8.

1 municipal incinerators with no operating pollution problems . . . even at triple their normal load,
2 plastics do not increase air pollution or cause operating problems in incinerators.” Mobil further
3 publicized that polystyrene foam, “when incinerated, [] will not pollute the air” and that the
4 incineration of both polystyrene and polyethylene bags produces mainly carbon dioxide and water
5 vapor.

6 126. But notwithstanding these representations, the plastics industry was aware that
7 incineration of plastics led to increased production of smoke, air pollution, and deterioration of
8 metal parts of the incinerators themselves. In the industry’s internal discussions, Exxon and
9 Mobil, through their agents, servants, alter-egos and/or trade groups, admitted that burning plastic
10 would likely cause environmental harms. A report presented at an SPI 1972 annual meeting stated
11 there were “no prospective customers for the steam” generated through plastic incineration.
12 Despite heralding incineration as the solution to the plastic waste problem, the industry knew
13 there were no markets for energy recovered through incineration and that it would cause air
14 pollution.

15 **C. In Response to Public Pressure Seeking an End to Plastic Waste,
16 ExxonMobil Misled the Public to Believe That Mechanical Recycling Was
a Sustainable Solution.**

17 127. For decades, ExxonMobil aggressively touted mechanical recycling—
18 recovering plastic waste by mechanical processes such as sorting, washing, drying, grinding,
19 heating, re-granulating and compounding—to calm public and legislative pressure against the
20 plastic waste and pollution crisis. ExxonMobil promoted mechanical recycling through its
21 predecessors Exxon Chemical and Mobil Chemical, and through activities of its agents, servants,
22 alter-egos and/or abettors. Meanwhile, internal discussions paint a vastly different picture—
23 ExxonMobil always knew that recycling would never solve the plastic waste and pollution crisis
24 and never intended to fund long-term recycling projects. Nonetheless, ExxonMobil sold the false
25 promises of mechanical recycling to fight legislation, distract the public, and blame consumers for
26 the plastic waste and pollution crisis.

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1 **1. Exxon and Mobil promoted mechanical recycling as the answer to**
2 **plastic waste and pollution in the 1970s but knew mechanical**
3 **recycling was not a feasible method to handle most plastic waste.**

4 128. ExxonMobil's promotion of incineration and landfilling did not quell public
5 opposition to plastic waste, and legislatures and municipalities nationwide continued to consider
6 restrictions and bans. In response, ExxonMobil shifted its public relations strategy to promote
7 mechanical recycling as the solution to the plastic waste and pollution problem, and employed a
8 threefold strategy to quiet public concern and avoid regulation: first, widely disseminate
9 deceptive messaging about the supposed efficacy of recycling through advertisements and
10 lobbying; second, invest in short-term pilot projects to "prove" that recycling works and promise
11 that it will scale at some indefinite time in the future; and, finally, once public attention dwindles,
12 divest from recycling ventures and continue to produce more plastics, returning to business as
13 usual.

14 129. Exxon Mobil and the plastics industry knew, however, that recycling was not a
15 feasible solution to the plastics waste and pollution crisis. Referring to recycling at an SPI annual
16 meeting in 1972, one member admitted:

17 16 Gentlemen, before going any further, let me say that despite the extreme pressures on
18 17 the plastic industry to initiate recycling projects, I cannot in good faith recommend
19 18 *any* program today which I feel would be worthwhile without creating the risk of a
20 public relations backlash or getting way over our heads financially.

21 19 130. SPI also admitted that it did not have the techniques or end markets necessary to
22 20 recycle plastics from municipal refuse: "Thus, if we were forced to set up redemption centers and
23 21 take back all of our containers, we would have to turn them over to the Sanitation Department for
24 22 disposal. Currently, there is no economic value for used plastic containers."

25 23 131. Similarly, an internal report that SPI and the Society of Plastics Engineers
26 24 sponsored in 1973 stated that "[w]hen plastics leave fabrication points, they are almost never
27 25 recovered. There is no recovery from obsolete products." SPI further reported that, "there are no
28 26 effective market mechanisms for trade in contaminated, mixed plastics." Industry periodicals
29 27 repeated this sentiment: "Recycling of wastes is currently believed to be the most acceptable form
30 28 of disposal; however, this route is known to be especially difficult for plastics" in part because

1 blended plastics result in degraded quality of plastic after recycling.

2 132. Recycling most plastics was technologically infeasible, as the plastics industry
3 knew, and subsequent scientific research would confirm. “When recycled, some of the plastic can
4 be remade into similar products; however, most is typically downcycled into a product of a lower
5 quality and is unable to displace products made from virgin plastics [citation omitted].”⁷² Even
6 PET, the most easily-recycled type of plastic, quickly degrades through the recycling process.

7 133. Exxon and Mobil have known about the limitations of plastics recycling for
8 decades. In 1986, the Vinyl Institute, a division of SPI, explained in an internal draft that
9 “recycling cannot be considered a permanent solid waste solution, as it merely prolongs the time
10 until an item is disposed of. At that point, recycled products also become MSW [municipal solid
11 waste] components.”

12 134. At a Vinyl Institute meeting that same year, members discussed a recent study
13 on the economics of recycling. “This study indicates that based on our economic system, on the
14 cost of fuel and transportation, on the economic benefit of downstream markets, on the low cost
15 of plastic feedstocks and the even lower cost of off grade-off spec plastic feedstocks, recycling is
16 not and will never be commercially viable unless it is significantly subsidized by a government
17 entity.”

18 135. Further, the industry knew that recycling post-consumer plastic was costly and
19 difficult, and had little or no end market or economic value, making virgin plastic a cheaper
20 option than recycled plastic. As Mobil stated in its “Primer”:

21 To get just a small amount of the material you want, you have to sift through tons of
22 trash you don’t want. And when you get enough of it, you have to ship it to a plant
23 where it can be scrubbed. Or purified. Or refined. Or upgraded. And then—maybe—
24 you’ll have a raw material almost as good as the nice, clean stuff a supplier can
25 deliver to your factory door for a lot less money. Finally, not all plastic submitted for
recycling actually makes it through the recycling process—some is lost due to process
inefficiencies and yield loss. The National Association for PET Container Resources’
(NAPCOR) report from 2018 estimated that nearly a third (~30%) of the volume of
plastic bottles collected for recycling were lost during the mechanical recycling
process.

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28 ⁷² Moran et al., San Francisco Estuary Institute, A Synthesis of Microplastic Sources and
Pathways to Urban Runoff (Oct. 2021) page 76.

1 136. Recycling plastics also introduces new toxins into the plastics themselves,
2 which then become part of the new plastic products. Plastics processed for recycling absorb
3 harmful chemicals they encounter in the waste stream, resulting in contaminated recycled
4 products. In addition, the recycling process itself creates toxins when the plastics are heated.

5 137. Plastics specifically cannot be re-recycled into food-safe products, even if their
6 original use was food-safe, as the mechanical recycling process introduces new toxins into the
7 plastic.⁷³ European researchers have also discovered toxic flame retardants in plastic food wrap
8 made with recycled plastics.⁷⁴ The recycled plastics are thus only acceptable for lower value uses
9 and virgin plastic must be used for food-safe products.

10 138. Toxins created by the recycling process also create concerns for other products
11 made with recycled plastics, including children's toys. Numerous studies have demonstrated high
12 levels of toxic flame retardants,⁷⁵ dioxins,⁷⁶ and other harmful chemicals⁷⁷ in children's toys
13 made with recycled plastics and/or recycled pellets that may be made into toys and other
14 children's products.

15 **2. Opposition to plastic waste in the late 1980s and early 1990s posed a
16 threat for Exxon's and Mobil's businesses, leading Exxon and Mobil
17 to aggressively promote recycling, despite knowing that recycling was
not a viable solution to the plastic waste and pollution problem.**

18 139. Despite ExxonMobil's knowledge that mechanical recycling would not be able
19 to resolve the massive amount of plastic waste generated, Exxon and Mobil sold plastic recycling
20 to the public as the key solution to the plastic waste and pollution crisis. These representations
21 started as early as the 1970s. Mobil deceptively publicized that "waste can be disposed of by
22 recycling. . . . Recycling sounds like an ideal solution. It would get rid of a lot of the trash and

23 ⁷³ See Environment and Climate Change Canada, Assessing the State of Food Grade
24 Recycled Resin in Canada & the United States (Oct. 2021).

25 ⁷⁴ Puype et al., Evidence of Waste Electrical and Electronic Equipment (WEEE) Relevant
26 Substances in Polymeric Food-Contact Articles Sold on the European Market (2015) 32 Food
27 Additives & Contaminants 410.

28 ⁷⁵ Guzzonato et al., Evidence of Bad Recycling Practices: BFRs in Children's Toys and
Food-Contact Articles (2017) 19 Environmental Science: Processes & Impacts 956.

27 ⁷⁶ Petrlik et al., Internat. Pollutants Elimination Network (IPEN), Plastic Waste Disposal
28 Leads to Contamination of the Food Chain (June 2021).

27 ⁷⁷ Brosché et al., Internat. Pollutants Elimination Network (IPEN), Widespread Chemical
28 Contamination of Recycled Plastic Pellets Globally (Dec. 2021).

1 would cut down on the need for dumps, landfills, and incinerators. And it would conserve virgin
2 raw materials.”

3 140. In a 1971 newspaper article, an environmental engineer at Mobil Chemical
4 suggested publicly that recycling was the “probable answer,” despite the fact that at the time less
5 than two percent of municipal waste was being recycled. Mobil deceived the public by equating
6 post-industrial recycling feedstock (never-used scrap from the factory floor) with post-consumer
7 recycling feedstock (which is more likely to be contaminated or lower quality after consumer
8 use), telling the public that recycling “is technically possible” but citing only to post-industrial
9 practices. In a similar vein, Mobil also publicly claimed that “[i]t is possible to recycle
10 polyethylene bags,” even while it internally acknowledged that recycling post-consumer bags
11 specifically was “uneconomical” and therefore would not actually occur.

12 141. In the late 1980s, the plastics industry was “under fire” due to the increased
13 public sentiment against plastic, and worked to convince the public that recycling was working in
14 order to allow the industry to continue making plastic products. But, in truth, for the industry
15 “[t]here was never an enthusiastic belief that recycling was ultimately going to work in a
16 significant way.”⁷⁸

17 142. In furtherance of their campaign to convince the public that recycling was the
18 answer to the plastics waste and pollution crisis, Exxon and Mobil, alongside other large
19 petrochemical companies, formed the Council for Solid Waste Solutions (the Council) in 1988.⁷⁹

20 143. After Exxon, Mobil, and others in the industry formed the Council, they pushed
21 the plastics recycling message with increased coordination and seriousness. The Council spent
22 millions of dollars on advertisements to herald recycling as the solution to plastic waste in hopes
23 to change public perception. For example, the Council took out a 12-page advertisement in the
24 July 17, 1989 edition of *Time* magazine exclaiming, “The URGENT NEED to RECYCLE.” But
25 unlike most advertisements, this one did not sell a specific product. Rather, it read more like a

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⁷⁸ Sullivan, *Plastic Wars: Industry Spent Millions Selling Recycling—To Sell More Plastic*, NPR (Mar. 31, 2020) <<https://www.npr.org/2020/03/31/822597631/plastic-wars-three-takeaways-from-the-fight-over-the-future-of-plastics>> (as of July 29, 2024).

27 ⁷⁹ Council for Solid Waste Solutions, *The Urgent Need to Recycle* (July 17, 1989) *Time*.

1 public service announcement issued by an official-sounding entity, the “Council for Solid Waste
2 Solutions.” On June 29, 1989, Larry Thomas, President of SPI, sent a letter to SPI’s members
3 explaining that the *Time* advertisement would “reach a total *Time* readership of 10 million . . . this
4 is an important audience for us. It also is an appropriate venue. It was *Time*, after all, that named
5 as its most recent ‘Man of the Year’ the planet earth wrapped in plastic”—referencing the cover
6 of the January 2, 1989 edition of *Time*, which did, indeed, name the “Endangered Earth” “Planet
7 of the Year” with a picture of the Earth wrapped in plastic.

8 144. The Council covered a myriad of topics in the *Time* advertisement, including
9 the alleged environmental benefits of plastic packaging, along with: how Americans have come to
10 depend on plastics; recycling as a smart solution for plastic waste; the Council’s and members’
11 efforts to promote recycling and recycling technology; degradable plastics; the plastics industry’s
12 intent to accelerate recycling; the uses for plastic “lumber;” and information about the Council
13 itself.

14 145. A July 1989 article in *Plastics Newsbriefs*, an industry-focused publication of
15 SPI, explained that because “most Americans believe plastics are not recyclable . . . [t]he *Time*
16 piece is designed to show plastics as part of the solution, instead of the problem.”

17 146. Further, in a speech at a 1992 industry conference, SPI’s Partnership for Plastics
18 Progress Vice President Donald Shea stated, “[i]f we are to survive the challenges of the so-called
19 ‘green revolution,’ we must adapt to a new paradigm—a new way of doing business that will
20 ensure the continued growth and expansion of the plastics industry. Shea then discussed the
21 public’s growing concerns “about the impact of modern lifestyles on the environment” and how
22 “[c]onsumers are rethinking the products they use and the manufacturing technologies that
23 produce them.” The public’s negative perception of plastics worried SPI, as it was aware that
24 “[p]ublic perception becomes legislative reality.” SPI decided to convince consumers that they
25 could continue to purchase and use the industry’s plastic products without compromising their
26 environmental concerns, by convincing the consumers that those plastics could be recycled. SPI
27 did this despite knowing that the infrastructure for recycling did not exist and that, given the
28 economic unprofitability of recycling post-consumer material, it would likely never exist on a

1 scale sufficient to handle the volume of plastics products the industry was producing.

2 147. The Council convinced Americans that recycling was the key to allow
3 Americans to continue consuming the plastics that—through the industry’s own efforts—had
4 become an essential component of everyday life. As SPI’s 1989 *Time* advertisement stated, “[t]he
5 growing movement to recycle plastic waste into new products holds a dual benefit for our
6 consumer society. First, plastics are less expensive than most other materials. Second, the
7 conversion of used plastics into new longer-life products reduces the volume of plastics in the
8 ever-growing municipal solid waste stream.”⁸⁰ But as Exxon, Mobil, and other members of SPI
9 knew, mechanical recycling was not happening, and would likely not happen at a sufficient rate to
10 meaningfully limit the amount of plastic that would be disposed of in other ways, particularly due
11 to the glut of new, cheaper virgin plastic still being produced.

12 148. Meanwhile, in 1989, Mobil misleadingly promised the public that it was
13 “venturing into recycling mainly out of a sense of environmental concern. ‘We are responsible for
14 that segment of the waste stream, so we’re going to see that it’s disposed of consistent with’ the
15 federal [EPA’s] recommendations.”

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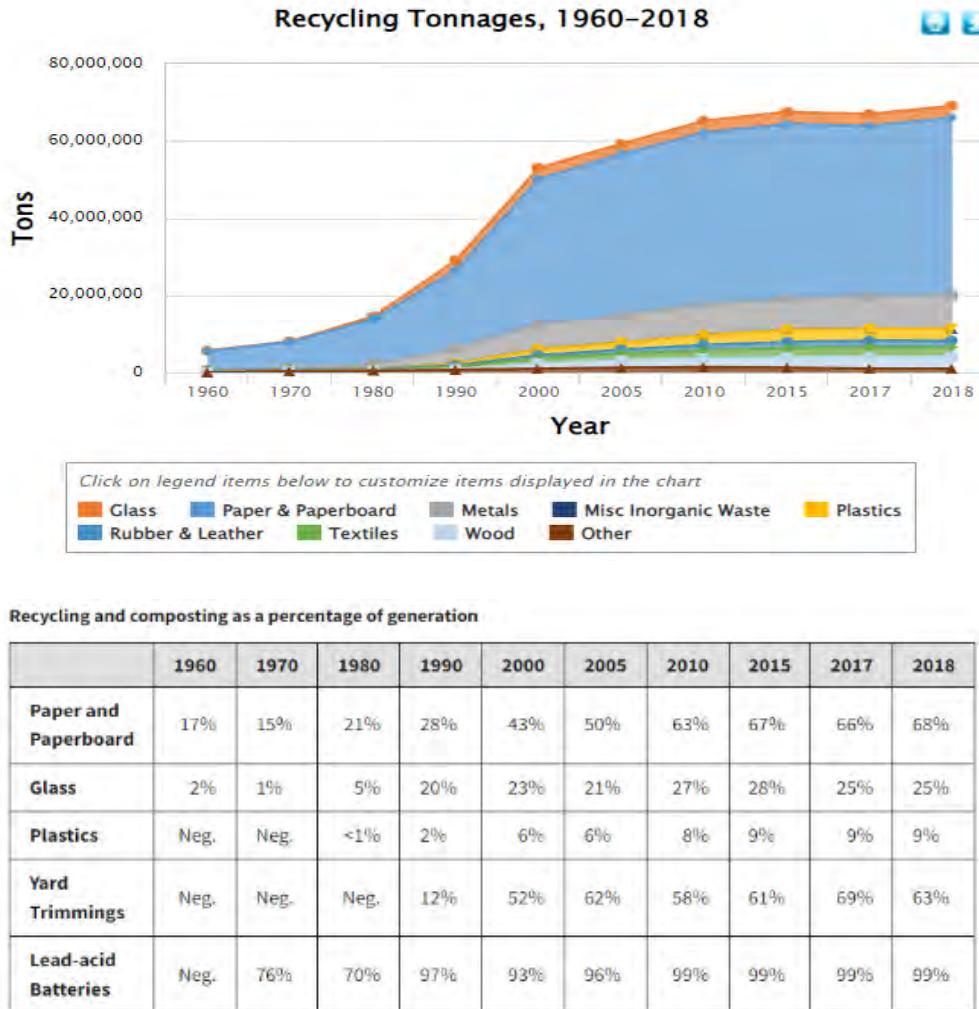
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28 ⁸⁰ *Id.* at page 17.

149. At the time that Mobil made these statements, the national plastics recycling
 2 rate was between just one and two percent. See Figure F.

3 **Figure F: National Recycling and Composting Rates from 1960 to 2018⁸¹**



20 "Neg." means less than 5,000 tons or 0.05 percent.

21 150. Exxon similarly recognized in a 1991 internal document that “[t]he industry
 22 needs to improve the public perception of plastics, which are widely regarded as a major
 23 contributor to the solid waste disposal problem.”

24 151. But Exxon, Mobil, and the industry knew that plastic recycling would only be
 25 minimally successful because, for most plastics, the costs of recycling or recovering used

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 27 ⁸¹ U.S. Environmental Protection Agency, *National Overview: Facts and Figures on Materials, Wastes, and Recycling* <<https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/national-overview-facts-and-figures-materials#Trends1960-Today>> (as of July 29, 2024).

1 materials was higher than the cost of virgin equivalents.

2 152. The industry did not want recycling to succeed: “Virgin resin companies see
3 recycling as ‘internal competition. They don’t want to see it succeed.’”⁸² Exxon and Mobil had
4 resources to invest in recycling but no financial incentive to do so. Their profits rely on the sale of
5 virgin plastics, the products of fossil fuels.⁸³

6 **a. Exxon and Mobil promised lofty plastic recycling targets that
7 they knew were unachievable.**

8 153. Exxon and Mobil, through the Council for Solid Waste Solutions (Council),
9 kicked off the 1990s by announcing a major initiative to promote plastics recycling. In or around
10 early 1990, the Council announced a \$13.2 million, 12-month long program to fund research and
11 promote plastics recycling. One highly publicized part of the program launched by the Council
12 was the “Blueprint for Plastics Recycling,” a plan through which the Council would encourage
13 recycling, including by encouraging communities to develop plastics recycling programs. The
14 centerpiece of the Blueprint was the Council’s goal to increase the U.S. plastic recycling rate to
15 25 percent by 1995, despite the fact that just over one percent of plastics was being recycled as of
16 1990, when the program was announced.

17 154. The Council announced it would spend \$20 million per year to develop
18 recycling capacity by providing information to communities about recycling, buying recycled
19 plastic, and other recycling investments. However, the Council recognized that these investments
20 were insufficient to meet the 25 percent recycling goal. In fact, the Council knew from the
21 beginning that it would not meet the goal to increase the plastic recycling rate to 25 percent by
22 1995, but “[t]wenty-five was felt to be the lowest rate that would be acceptable to the general
23 public and the environmental community.” Despite some industry representatives believing 10
24 percent to be a more reasonable goal, the Council made sure that the 25 percent stated goal was
25 well-known.

26 155. Despite knowing its deficiencies, Exxon and Mobil continued to invest heavily

27 ⁸² Kirschner, *Recycling’s Rough Adolescence*, Chemical & Engineering (C&E) News (Nov.
28 4, 1996) page 20.

⁸³ Freinkel, *supra*, at pages 192-193 (citing interview with Howard Rappaport).

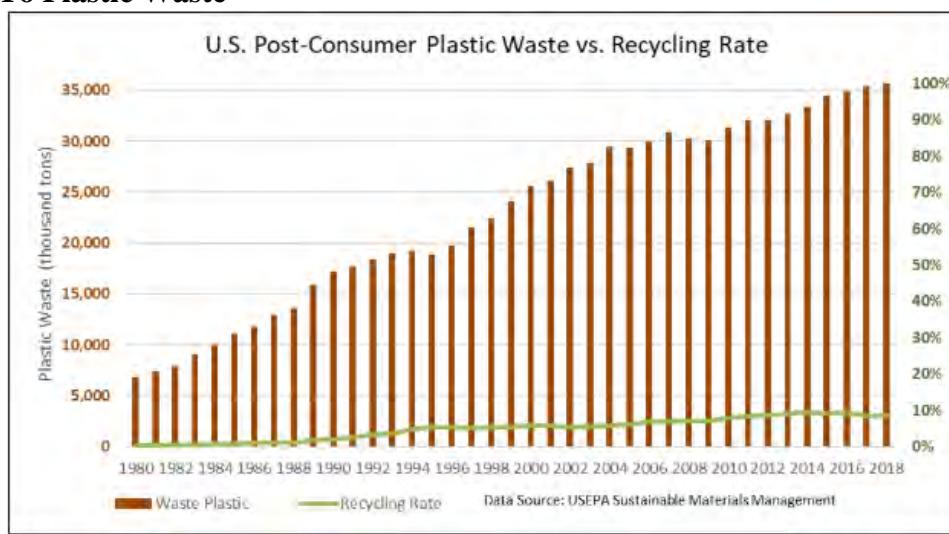
1 in marketing recycling to the public as the solution to plastic waste. A group of major resin
 2 makers that included Exxon and Mobil spent \$40 million to promote curbside recycling.

3 156. The millions of dollars spent promoting recycling as the solution to plastic
 4 waste dwarfed Exxon's and Mobil's actual investments in recycling infrastructure. While the
 5 Council—comprised of a small number of petrochemical companies including Exxon and
 6 Mobil—publicly announced a goal to increase the plastic recycling rate to 25 percent, neither
 7 Exxon nor Mobil invested significant funds to increase the feasibility of the alleged goal.

8 157. The plastics industry concurrently invested in virgin resin, creating an
 9 oversupply that drove the price of virgin plastic down. Inevitably, the low price of virgin plastic
 10 made recycled plastic even more uncompetitive. Between 1990 and 1996, for every pound of
 11 plastic packaging that was recycled, an average of four pounds of virgin plastic was produced.

12 158. In 1991, SPI and the Council for Solid Waste Solutions announced a goal to
 13 raise the post-consumer plastic bottle and containers recycling rate to 25 percent by 1995, but
 14 abandoned the goal, which was unmet, in 1995. Meanwhile, the plastic recycling rate in the U.S.
 15 has never surpassed nine percent (when massive amounts of plastic waste was exported to China),
 16 despite the exponential growth of plastic, meaning more and more plastic fails to be recycled year
 17 over year, as shown in Figure G, below.

18 **Figure G: Waste and the Plastics Industry's Alleged Dedication To Make Recycling A
 19 Solution To Plastic Waste⁸⁴**



28 ⁸⁴ Beyond Plastics and The Last Beach Cleanup, The Real Truth about the U.S. Plastics
 29 Recycling Rate (May 2022) page 4.

1 159. The plastics industry, including Exxon and Mobil, recognized, however, that the
2 public was demanding action on the solid waste crisis. In 1991, Mobil published advertisements
3 in national newspapers claiming that the company had “spent hundreds of millions of dollars on
4 environmental efforts” in the last year, including plastic recycling. Mobil informed the public that
5 it was working with supermarket chains to collect plastic shopping bags, which would be recycled
6 in Mobil’s plants. These efforts, Mobil explained, “add[] to the momentum the plastics industry
7 has attained as a responsible recycler.”

8 160. At the same time, a 1991 report by the Congressional Research Service noted
9 that serious obstacles to mechanical recycling existed at the time in the areas of resin
10 identification, collection, and sorting, and that according to interviews with industry executives
11 that it made “little sense” to recycle plastics. But the industry nonetheless carried forward, as “the
12 public is generally aware, partly thanks to industry information efforts, that plastics can be
13 economically recycled as materials.” SPI internally explained its contradictory practice was
14 intended to appease the public and combat anti-plastic sentiment:

15 The public fully embraces only one of the key elements of the integrated waste
16 management package: recycling. Public opinion research conducted for the Council
17 repeatedly has shown that Americans will not support building additional waste-to-
18 energy or landfill capacity until a major recycling effort has been made. . . . **We have**
19 **got to meet the public on its own terms if we are to secure the acceptance of our**
20 **products.** In the short term, that means pursuing recycling to the best of our
21 abilities—without promising more than can be economically or environmentally
22 delivered.

23 Exxon, Mobil, and its industry trade groups knew the public would only accept plastic if they
24 thought it was sustainable. As a result, they promoted recycling as the mechanism to make plastic
25 appear sustainable. SPI stated internally, “we must adapt to a new paradigm—a new way of doing
26 business that will ensure the continued growth and expansion of the plastics industry.” The new
27 way of doing business included fooling the public into believing that recycling plastic would
28 solve the plastic waste and pollution problem while increasing the amount of virgin plastic sold to
the public.

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b. Exxon and Mobil sought buy-in for their recycling goals by attempting to convince consumers that they were to blame for the plastics crisis.

3 161. A crucial part of Mobil’s and Exxon’s strategy to promote plastic recycling was
4 convincing consumers that they were responsible for the proliferation of plastic waste through
5 their own personal habits, rather than through Mobil’s and Exxon’s efforts to produce an
6 increasing number of plastic products designed for single-use. This strategy shifted attention from
7 Mobil’s and Exxon’s creation of the plastic to consumers’ behavior. Keep America Beautiful, a
8 non-profit organization created by the packaging industry, campaigned against littering and
9 blamed individuals, the “litter bugs,” for trash that entered the environment. Keep America
10 Beautiful’s focus on littering diverted the public’s attention toward individual misbehavior, while
11 at the same time allowing industry to continue producing single-use packaging that, even when
12 properly entered into the waste stream, contributed significantly to plastic pollution.

13 162. Mobil published advertisements reminding consumers of their role. One in the
14 *Los Angeles Times* stated: “[T]here are no heroes or villains. Every household, like every store or
15 factory, produces its share of refuse. All should shoulder a fair share of the cost of removal.”

16 163. In another, published in the *Sacramento Bee* in 1988 entitled “Foam fast-food
17 containers: The scapegoat, not the problem,” Mobil said: “[T]he [plastic waste] problem has to be
18 attacked logically and scientifically, without a helter-skelter rush to anoint villains. For the fact is,
19 there are no villains, and we’re all ‘guilty.’ Every household, every business, every office—
20 indeed, every American—contributes to the refuse stream every day. To zero in on the fast-food
21 business, or the plastics industry is to engage in scapegoating, not problem-solving.”

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1 164. While Exxon and Mobil waged an ongoing campaign to convince the public
2 that plastics recycling would solve the plastic waste and pollution problem, they also continued
3 shifting the blame for dismal plastic recycling rates onto the public:

4 Recycling projects initiated by the plastics industry have been announced in many
5 parts of the country. And the opportunities for more plastics recycling ventures are
6 nearly limitless. All that remains to make widespread recycling of plastics a reality is
7 public sector support: more communities and cities must develop programs for
8 separation and collection of recyclable materials. Only then will we be able to ensure
9 a reduction of the growing waste stream.⁸⁵

10 165. In 1992, the American Plastics Council (APC), of which Exxon and Mobil were
11 members, pledged to educate consumers on “their role in meeting environmental challenges.”

12 166. Exxon, Mobil, and others in the industry recognized that the promotion of
13 recycling was key to allowing consumers to feel comfortable continuing to purchase and dispose
14 of their plastic products—the other side of the coin to blaming consumers for plastic waste.
15 Recycling was a “guilt eraser” that allowed the public to consume plastic products and believe
16 that through recycling, they had the power to ensure that plastic materials would not become
17 pollution and would have a new life as useful products.⁸⁶

18 c. **Exxon and Mobil, through the Society for the Plastics Industry,
19 created and promoted the chasing arrow symbol despite
20 knowing that it was deceiving the public into thinking that all
21 plastics are recyclable.**

22 167. The “chasing arrows” symbol, a logo showing three arrows each folded in the
23 middle and arranged in a triangle was invented in 1970 by a student who won a contest held by a
24 box manufacturer to promote recycling of paper.⁸⁷ The chasing arrows symbol is now strongly
25 associated with recycling, and consumers usually assume that the symbol identifies items that can
26 be recycled.⁸⁸

27 168. In or around 1988, in an attempt to stave off regulation, SPI modified and

28 ⁸⁵ Council for Solid Waste Solutions, *supra*, at page 22.

29 ⁸⁶ Freinkel, *supra*, at page 162 (citing Roger Bernstein of the American Chemistry
30 Council).

31 ⁸⁷ Che, *His Recycling Symbol Is Everywhere. The E.P.A. Says It Shouldn’t Be.*, N.Y.
32 Times (Aug. 3, 2023) <<https://www.nytimes.com/2023/08/07/climate/chasing-arrows-recycling-symbol-epa.html>> (as of July 29, 2024).

33 ⁸⁸ *Ibid.*

1 adopted the chasing arrow symbol for plastic containers, including a number in the middle of the
2 three arrows, ranging from 1 to 7, that would correspond to the type of resin the item was made
3 from. This placed responsibility for plastic waste on individual consumers, who would need to
4 know the capabilities of their local recycling facility to recycle each resin number at all times and
5 in all locations, as facilities vary in which resins they accept for recycling. Indeed, there were and
6 still are no western U.S. recycling facilities that can process resin numbers 3 to 7. Nevertheless,
7 SPI's Council on Plastics and Packaging in the Environment (COPPE) assured lawmakers that the
8 codes would "help guide recyclers and promote the practice" by showing the type of plastic that
9 composed an item. Since "[a]lmost all recycling markets are designed to handle one kind of
10 plastic at a time," the industry needed to demarcate the type of plastic on their products in order to
11 group specific types together for recycling. While demarcating the type of plastic on their
12 products makes sense, the use of the chasing arrows, universally understood as the recycling
13 symbol, was unnecessary and misleading.

14 169. Indeed, in practice, the symbol led consumers to believe that all labeled plastic
15 items were recyclable, due to the chasing arrows symbol. In truth, however, most plastic resins
16 were not able to be recycled because there were no recycling facilities that were capable of
17 recycling most resin numbers.

18 170. Despite hijacking and promoting the chasing arrows symbol as a purported
19 boost to plastic recycling, the plastics industry knew that the resin identification codes would not
20 improve plastic recycling. Instead, the coding was intended to hide the limits of recycling, delay
21 regulation, and pass responsibility for plastic waste onto consumers. According to the Vinyl
22 Institute in 1986, "efforts to simplify source separation by labeling containers as to their material
23 makeup—a solution growing in popularity with regulators—are of limited practicality."

24 171. According to Coy Smith, former National Recycling Coalition⁸⁹ board member,
25 SPI offered the resin codes to state and local governments as a purported way to address the
26 government's concerns about solid waste while allowing their constituents continued access to

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28 ⁸⁹ National Recycling Coalition is a non-profit advocacy organization of recyclers,
nonprofits, and other groups. See National Recycling Coalition, What We Do, 2023 (2023).

1 disposable products. The industry “convinced [] states to pass laws—and they did this very
2 quietly—they passed laws that required that symbol with the number on it be put on plastic
3 containers sold in that state.... [F]or most states they did it in, recyclers didn’t even know it
4 happened.”⁹⁰

5 172. In states like Iowa, Minnesota, and Ohio, the industry in quick succession
6 managed to convince legislators to mandate plastic container coding and other measures meant to
7 promote plastic recycling, in exchange for abandoning bills prohibiting some or all disposable
8 plastics. By the mid-1990s, SPI’s resin code symbol was legally mandated in 39 states. Even the
9 California chasing arrows bill, Assembly Bill 3299, introduced on February 12, 1988, by
10 Assemblymember Killea, was originally written to “require plastic containers and packaging to be
11 manufactured of recyclable or biodegradable plastic.” That bill language was removed and the
12 bill was amended in the State Assembly on March 22, 1988, to require only a molded label on
13 plastic products indicating the plastic resin code.

14 173. As intended, the plastic resin identification codes confused consumers, who
15 believed that any item containing the chasing arrows symbol was recyclable. Two surveys in
16 different states showed that between 53 and 74 percent of consumers believed the presence of the
17 symbol on a product meant it could be recycled where they live. In the early to mid-1990s, a
18 coalition that included plastics recyclers urged SPI to change the chasing arrows symbol to avoid
19 consumer confusion and make it easier for plastic recyclers to process incoming materials. SPI
20 refused to accept the suggestions of the coalition, choosing instead to continue using the chasing
21 arrows symbol that wrongly convinced consumers that plastics separated for recycling would
22 actually be recycled. This consumer confusion, which placed the blame of plastic waste on
23 consumers themselves and thus paralyzed regulatory solutions, was the point.

24 3. **ExxonMobil and the plastics industry successfully fought against
25 plastics restrictions in California and elsewhere with the promise that
recycling would make plastics more sustainable.**

26 174. Mobil aggressively responded to regulatory and legislative solutions to reduce

27 ⁹⁰ Sullivan, *Plastic Wars* (film transcript) (2020) PBS Frontline
28 <<https://www.pbs.org/wgbh/frontline/documentary/plastic-wars/transcript/>> (as of July 29, 2024).

1 the use of disposable plastic products in order to continue growing its plastics production
2 business. Beginning in the early 1970s, SPI aggressively fought a tax on plastic bottles in New
3 York and won.

4 175. SPI then created a separately-funded Public Affairs Council, the function of
5 which was limited in scope to areas of packaging and solid waste. The Public Affairs Council
6 monitored and reported to its members on state bills related to packaging, solid waste, littering,
7 and other areas of environmental concern.

8 176. Mobil and the plastics industry mobilized against anti-plastic initiatives “in
9 every state and municipality that offered a serious threat to the industry’s sales and profits.”
10 Mobil also mobilized its efforts at the federal level. In 1974, SPI boasted that it persuaded the
11 U.S. Food and Drug Administration to bypass a statement on the environmental impact of
12 refillable or disposable plastic bottles, and instead only compared plastic disposables to other
13 disposable materials. The plastics industry aimed to quash challenges to the growth of plastic use
14 and the profits derived from plastics at every level.

15 177. As part of its strategy to continue promoting the false promise of recycling, the
16 Council also successfully fought plastics restrictions and bans in California. On April 26, 1989,
17 the California State Lands Commission banned the use of polystyrene foam food containers at
18 state-led concession stands and marinas. The Council for Solid Waste Solutions “coordinat[ed] a
19 meeting between industry representatives and the commission to attempt to reverse the
20 prohibition.” Indeed, a June 26, 1988 *San Francisco Examiner* article titled, “*War of words over*
21 *foam packaging*,” noted that “Mobil [] spen[t] tens of thousands of dollars in an elaborate public
22 relations campaign to slow the spread of laws that make it illegal to use foam containers.”

23 178. In April and May of 1989, several California cities considered bans on
24 polystyrene packaging. On April 24, 1989, the City of Palo Alto considered ordinances that
25 would (1) ban disposable polystyrene and rigid plastic food service items, (2) require retail stores
26 to offer either paper bags only or a choice between paper and plastic bags, and (3) require that
27 city staff purchase alternatives to polystyrene and disposable rigid plastic food service items. In
28 May 1989, the City of San Ramon considered an ordinance to ban the use of polystyrene foam

1 food packaging by restaurants and its city administrative offices. The Council for Solid Waste
2 Solutions opposed these ordinances.

3 179. In May 1989, the County of Santa Cruz considered banning the use of
4 polystyrene foam food packaging. According to the Council, “[i]ndustry representatives have
5 presented the assistant county counsel with information on consequences of such a ban.” The
6 Council successfully opposed passage of the ban. The County of Santa Cruz would go without a
7 polystyrene ban for almost two decades—until 2008, when it passed an ordinance banning
8 polystyrene foam packaging in food service.

9 180. According to the Council for Solid Waste Solutions, “[t]he Sacramento County
10 Board of Supervisors on April 18 [1989] adopted a policy encouraging the public and private use
11 of ‘recyclable, reusable, or biodegradable’ products made without [chlorofluorocarbons]. In
12 response to testimony and meetings with [the Council for Solid Waste Solutions] and industry
13 representatives, the board amended their original proposal that would have called for a decrease
14 in the use of polystyrene foam products and increased use of biodegradable products.” Similarly,
15 “[t]he City of Huntington Beach had directed its citizens’ advisory committee to investigate the
16 feasibility of a ban on polystyrene cups made with [chlorofluorocarbons]. Following a meeting
17 with [the Council for Solid Waste Solutions] on May 11, the committee decided to recommend
18 against the ban.”

19 181. In May 1989, Los Angeles City Councilmember Ruth Galanter introduced a
20 polystyrene foam packaging ban. The Council for Solid Waste Solutions made plans to address
21 the councilmember about the proposal. The City of Los Angeles would go without a polystyrene
22 ban for over three decades; it finally passed an ordinance banning polystyrene foam products in
23 2022.

24 **4. Mobil deceptively advertised the expansion of recycling initiatives
25 but quietly abandoned them a few years later.**

26 182. As described below, Mobil claimed that its plans to recycle plastic bags, its
27 participation in the National Polystyrene Recycling Company, along with its work through the
28 Council for Solid Waste Solutions, showed that the plastics industry was responsibly recycling.

1 Through these and other efforts, Mobil conveyed that plastic recycling would solve the problem
2 of plastic waste and pollution. These efforts, however, paled in comparison to the huge numbers
3 of virgin plastics the industry was producing. Moreover, Mobil could not sustain these recycling
4 projects for more than a few years. As Exxon Chemical Vice President Irwin Levowitz explained
5 in a 1994 meeting with the American Plastics Council (APC), “[w]e are committed to the
6 activities, but not committed to the results.”⁹¹

7 **a. Mobil’s highly publicized efforts to recycle polystyrene failed.**

8 183. In November 1988, Mobil announced that along with plastic manufacturer
9 Genpak Corporation, it would open the nation’s first polystyrene recycling plant in Leominster,
10 Massachusetts, which would start by recycling used foam dishes from school, industrial, and
11 institutional cafeterias. The plans were for the Leominster plant to recycle three million pounds of
12 used polystyrene per year.

13 184. In or around June 1989, Mobil and six other producers of polystyrene
14 announced that they were joining forces to form the “National Polystyrene Recycling Company”
15 (National Polystyrene) which would establish recycling centers for expanded polystyrene (plastic
16 foam), with five such centers opening by the end of 1990. Each of the seven major producers paid
17 two million dollars to start the company. National Polystyrene planned to open recycling centers
18 near Los Angeles, San Francisco, Chicago, and Philadelphia, in addition to existing facilities in
19 Corona, California and Leominster, Massachusetts. Although the involved companies invested
20 \$85 million between 1989 and 1997 for recycling facility operations, the National Polystyrene
21 project inevitably failed because the recycled products could not profitably compete with virgin
22 resin.

23 185. National Polystyrene promised that “1990 is going to be a pivotal year for
24 polystyrene recycling’ [. . .]. It will be the year that polystyrene recycling gains momentum.” In
25 1990, Mobil published advertisements in national newspapers telling consumers that the National
26 Polystyrene Recycling Company’s goal was to recycle at least 25 percent of all food service and

27
28

⁹¹ Allen et al., Center for Climate Integrity, *The Fraud of Plastic Recycling, supra*, at page
21.

1 packaging polystyrene by 1995, or 250 million pounds per year. In or around August 1990,
2 National Polystyrene announced the opening of a second recycling facility, this time in Corona,
3 California, to be operated by TALCO Recycling Inc. beginning in October 1990.

4 186. According to National Polystyrene, products made out of the used polystyrene
5 would be turned into items with long service lives, keeping the polystyrene out of the waste
6 stream long-term. National Polystyrene also falsely claimed that “most products made from
7 recycled polystyrene can be recycled again and again.”

8 187. Meanwhile, on May 4, 1989, Mobil announced that it would expand a new
9 polystyrene production line at its plant in Joliet, Illinois, expected to be completed in 1991. The
10 expansion would increase the Joliet plant’s polystyrene production by 485 million pounds of resin
11 annually and raise Mobil’s total production of polystyrene to 625 million pounds per year.

12 188. But in November 1990, these plans were foiled when a very large consumer of
13 polystyrene, McDonald’s, announced that it was switching from polystyrene to paper packaging
14 for its restaurants because its attempts to have its customers separate polystyrene had been largely
15 unsuccessful. This meant that the materials arriving at the recycling plant were contaminated and
16 produced low-quality recycled plastic.

17 189. In the wake of McDonald’s ending its use of polystyrene, National Polystyrene
18 announced that it would instead focus on partnerships with schools and industrial cafeterias, as
19 “students are more dutiful in separating foam trays from other wastes.” In East Rockaway, New
20 York and Lexington, Massachusetts, National Polystyrene led students who wished to stop using
21 polystyrene trays in their lunchrooms to believe that allowing the plastics industry to assist them
22 in recycling the trays was more beneficial than switching to a different material. Los Angeles
23 Unified School District, as well as other school districts in California, contracted to provide their
24 used polystyrene trays to National Polystyrene and other polystyrene recyclers.

25 190. By 1994, just five years after the program started, National Polystyrene had cut
26 its staffing by 25 percent and closed its Hayward, California plant, as it was forced to cut costs in
27 an attempt to compete with virgin resin. National Polystyrene had sold its first plant in
28 Leominster, Massachusetts and that plant had subsequently closed as well. In 1997, National

1 Polystyrene also closed its plant in Bridgeport, New Jersey, leaving only its plants in Chicago,
2 Illinois and Corona, California. National Polystyrene admitted that the company was still not
3 profitable and had only made money in 1995 and part of 1996. The President of National
4 Polystyrene blamed consumers for recycling's inherent limitations, claiming “[t]he public does
5 not want to buy recycled products.”

6 191. In 1997, a 14-year-old student in North Carolina investigated her school's
7 polystyrene tray recycling program for a class project and discovered that the trays were being
8 dumped into a landfill rather than recycled. The National Polystyrene chairman confirmed that
9 only two percent of polystyrene was being recycled at the time, despite the industry's promise to
10 recycle 25 percent by 1995, and again blamed consumers for “not participating as expected.” In
11 1999, National Polystyrene was sold.

12 **b. Exxon quickly abandoned its polypropylene recycling center.**

13 192. Exxon engaged in similar short-term projects in an attempt to convince the
14 public that plastic recycling would solve the problem of plastic waste and pollution. In 1991,
15 Exxon Chemical Company began construction of a plastics recycling facility in Summerville,
16 South Carolina, with stated plans to recover 20 million pounds per year of post-industrial scrap.
17 In 1994, Exxon sold its South Carolina polypropylene recycling center.⁹² Exxon explained that it
18 had built the recycling center to demonstrate a method for recycling polypropylene resin but had
19 sought a buyer “that would continue to operate this facility and integrate it as part of its core
20 business.”

21 193. This recycling “demonstration” bought Exxon cover to continue investing in
22 ramping up plastic production. Indeed, less than a year later after it sold its recycling facility,
23 Exxon Chemical announced that it would build a new polypropylene production line at its
24 Baytown, Texas plant. The new line would raise production by 240,000 tonnes per year to bring
25 Baytown's yearly capacity to 720,000 tonnes. Exxon also announced that it would produce a new

26 _____
27 ⁹² Exxon sold the recycling center to Washington Penn Plastics, which in 2001 formed a
28 joint venture with another local polypropylene recycling plant in an attempt to make operations
profitable, as both recycling center owners had found their recycling endeavors unprofitable.
(That facility closed in 2008.)

low density polyethylene (called “EXCEED”).

- c. **Mobil misrepresents its ability to recycle polyethylene shopping bags.**

194. In 1990, Mobil announced that it would begin a program to recycle polyethylene grocery sacks at its factories in Jacksonville, Illinois; Covington, Georgia; Macedon, New York; and Temple, Texas. Mobil announced it would work with any willing supermarkets to collect plastic bags. Kroger and A&P would participate, as well as Safeway in California, Hawaii, and Nevada. Mobil assured consumers that it was "good for the environment" that so many of them used plastic bags to carry their groceries because the bags would be "recycled into new, useful plastic products." Customers could bring in shopping bags to recycle, as well as other types of plastic bags.

195. In 1992, Mobil announced that it would be able to wash polyethylene at its Jacksonville, Illinois plant prior to recycling, streamlining the recycling process. The following year, Mobil announced that the film it recycled at its Jacksonville, Illinois facility would be used in its new stretch film, Marketwrap, containing at least 20 percent post-consumer material, as well as its Tucker Housewares line, consumer and industrial waste bags, and wood-polymer composite building material.

196. Customers and grocery stores concerned about the environmental impact of plastic shopping bags eagerly took to the new program. Customers of the Lucky grocery store chain in Southern California returned 9.7 million plastic bags during approximately the first year and a half that Lucky started accepting them.

197. As the popularity of the bag return program grew, it became clear that the bags were not being converted into new products as customers were promised. In 1992, Bob Leaversuch, an editor of *Modern Plastics*, explained that the bag return stream, predictably, is a mix of linear-low-density PE and high molecular weight-HDPE, materials having markedly different densities, and flow and physical properties. And the mix of colors and inks used in grocery sacks also yields a reclaimed pellet that is gray-green, and whose reuse potential is therefore limited. Nor can one ignore the potential contaminants, ranging from paper receipts to

1 pennies left in the bags.

2 198. As one processor-converter told Mr. Leaversuch, “Our industry is being driven
3 to put recycle-content in our bags, but make no mistake about it, this is difficult and it drives up
4 our cost.” It cost 25 cents per pound to process the used bag stream, while equivalent virgin resin
5 can be purchased for 22 cents per pound.

6 199. Seeing the writing on the wall, in 1995, Mobil sold its entire Plastics Division,
7 which included its facilities for recycling polyethylene grocery sacks in Jacksonville, Covington,
8 Macedon, and Temple.

9 **d. By the mid-1990s, Exxon, Mobil and the plastics industry
10 stopped funding recycling efforts and ramped up production of
virgin plastics.**

11 200. By the mid-1990s, the plastics industry had succeeded in convincing the public
12 that it could sustainably use and dispose of plastic products marketed by Mobil and others
13 because the plastics would be recycled. The industry’s focus on selling the recyclability of
14 plastics, and thus investments in recycling itself, waned. The American Plastics Council’s (APC)
15 senior director of government affairs and state legislation explained: “There’s a shift in the
16 political climate There’s a recognition that the plastics industry has made strides. There is a
17 feeling we are more in alignment, that we’re not singled out as the symbol of a throwaway
18 society, a society using too much.” As one industry consultant observed: “The environmental
19 pressure is off.”

20 201. Meanwhile, the plastics industry had accurately recognized that recycling was
21 not economically viable. The price of recycled resins could not compete with low-cost virgin
22 resins, and recycled resins were of lower quality. Higher-priced products made of lower-quality
23 recycled resins had difficulty competing with cheaper virgin plastic products, despite customers’
24 desires for recycled products.

25 202. In the late 1990s, Exxon was producing 1.6 billion pounds of virgin
26 polypropylene at its Baytown, Texas chemical plant. Exxon also produced polyethylene and
27 worked to develop new uses that would necessitate its additional production, such as single-
28 serving milk bottles that consumers could drink on the go. A business research firm conducting a

1 1995 study of plastic recycling concluded that:

2 Recycled resin prices must decrease in order to make them more competitive with
3 virgin resins. Some of the price differentials will be enhanced when economies of
4 scale are reached. Nevertheless, recycled resins are more difficult to process and of
5 generally lower quality than virgin resins because of the presence of contaminants
6 and an array of varying color and other additives.... Enhanced supercleaning and
7 other processes produce high quality resins comparable to virgin materials but at a
higher cost.

8 The firm predicted that a mere 3.4 percent of plastics would be recycled by 1998, a far cry from
9 the 25 percent the industry had promised by 1995.

10 203. In 1996, Rutgers' Center for Plastics Recycling Research, which opened in
11 response to New Jersey's attempts to ban non-recyclable materials, closed due to "dwindling
12 contributions from the plastics industry, a perceived decline in the necessity and practicality of
13 plastics recycling, and a change in research emphasis by the university and state agencies." Two
14 major recycling centers also closed at or around the same time: Quantum Chemical's plant in
15 Heath, Ohio, and Union Carbide Corporation's plant in Piscataway, New Jersey. After plastics
16 industry lobbyists succeeded in preventing the California legislature from passing a robust
17 plastics recycling law, and after the plastics industry successfully convinced the public that
voluntary recycling was the solution to plastic waste and pollution, the industry shifted its focus
away from recycling.

18 204. When the industry urged the public to embrace plastics recycling and to "take
19 responsibility" for consumers' own use of plastic products, the public willingly did so. But the
20 recycling industry never committed to actually recycle these plastic products.

21 205. In communities near San Diego, local governments that had eagerly set up
22 curbside recycling programs found that no one wanted most of the plastics they collected from
23 residents, except for soda bottles, jugs, and similar items. For recyclers, it was not economically
24 feasible to take other plastics, and those communities considered dumping the purportedly
25 recyclable trash they had collected.

26 206. In the Twin Cities in Minnesota—two of the first cities to consider plastic bans,
27 which instead accepted the plastics industry's offer of assistance in developing a recycling
28 program—ostensibly recyclable plastic products were "piling up" due to a lack of recycler

1 demand.

2 207. For the recycling industry, it was impossible to make plastics recycling
3 profitable. Anticipating that plastic recycling would be mandated, an owner of a Norwalk,
4 Connecticut solid waste consulting company stated, “It’s hard to make money on it, but we’ve got
5 to find ways to minimize the losses.” Indeed, an employee of Replatec, a plastic waste company,
6 also stated that “it’s not clear that the market for even ‘pure’ recycled resins will be strong enough
7 to support the cost of sorting and collecting any time soon—even if the industry realizes its goals
8 of developing new uses for recycled material.” Likewise, governmental entities were also facing
9 budget crises that affected plastics recycling: “Washington, D.C. halted municipal recycling
10 several times in the mid-1990s, as did New York City for two years starting in 2001. In both
11 cases, local officials argued that they had to suspend recycling to save money.”⁹³

12 208. As the Council for Solid Waste Solutions’ Ronald Lisemer said, “[t]he industry
13 attitude was, ‘We’ll set this up and get it going, but if the public wants it, they are going to have
14 to pay for it.’”⁹⁴

15 209. At an APC meeting in 1994, Exxon staff advised others to avoid being too open
16 about discussing how far from target the industry was from meeting its recycling goals, as the
17 issue was “HIGHLY SENSITIVE POLITICALLY.”⁹⁵

18 210. APC ultimately failed to meet the goals set by its parent organization, SPI, to
19 recycle 25 percent of plastics by 1995. APC denied that it had failed, stating vaguely that “[t]he
20 idea of rates, dates, mandates . . . numerical goals, is all very artificial.” APC retreated from SPI’s
21 goal, claiming, “the 25 percent target is not as important as it once was” because progress had
22 been made to remove obstacles to recycling. The former director of governmental affairs for Dow
23 Chemical Co., who was also involved with APC, explained that “[SPI was] caught in a rate and
24 date frenzy. . . . There was pressure to set rates and dates because the fear was that if they didn’t,
25 the government would set worse ones.”

26 _____
27 ⁹³ Rogers, *Gone Tomorrow: The Hidden Life of Garbage*, *supra*, at page 180.
28 ⁹⁴ Sullivan, *Plastic Wars* (film transcript), *supra*.

⁹⁵ Allen et al., Center for Climate Integrity, *The Fraud of Plastic Recycling*, *supra*, at page
14 (citing Bailey Condrey, *ART Meeting—Houston 1/26/94*, in Notes 1 (1994)).

1 211. ExxonMobil's campaign of deception—or, "propaganda efforts," as one 1988
2 article coined it—had succeeded. With the public continually falling victim to ExxonMobil's
3 misinformation, the demand for plastic has steadily increased for decades. Consequently, "U.S.
4 plastics production grew from 3 billion pounds in 1958 to more than 61 billion pounds in 1990,
5 with an average annual growth rate of 10.3 percent."

6 212. The result foreseeably oversaturated and overwhelmed an ill-equipped waste
7 management system. Over ten years later, in 2000, the plastics recycling rate sat at only six
8 percent and only increased three percentage points, to nine percent, by 2018.⁹⁶ According to
9 plastic waste export data, the ostensible increase to nine percent was largely due to millions of
10 pounds of plastic waste being exported each year to China and developing countries, supposedly
11 for recycling but often for incineration or landfilling.⁹⁷ Today, the plastic waste exports have
12 declined and the U.S. plastics recycling rate has declined to a dismal five percent.⁹⁸

13 **D. In the 2000s, ExxonMobil Again Promoted Recycling to Distract the Public
14 from Its Contribution to Plastic Pollution.**

15 **1. In the 2000s, public knowledge of marine plastic pollution becomes
16 widespread.**

17 213. By the late 1990s and early 2000s, public attention temporarily shifted away
18 from the issues of plastic production and waste management, as ExxonMobil had successfully
19 convinced many members of the public that their plastic waste would be recycled.

20 214. But the full extent of plastic pollution would not stay hidden for long. In 1997, a
21 sailor and researcher named Charles Moore stumbled upon what later became known as the Great
22 Pacific Garbage Patch—an enormous area between California and Hawaii where pollution had
23 converged and formed a giant plastic soup. The plastic ranged in size from tiny particles to much
24 larger items like bottles and traffic cones.

25 ⁹⁶ U.S. Environmental Protection Agency, *National Overview: Facts and Figures on
26 Materials, Wastes, and Recycling*, *supra*.

27 ⁹⁷ Beyond Plastics and The Last Beach Cleanup, The Real Truth about the U.S. Plastics
28 Recycling Rate, *supra*, at page 2.

29 ⁹⁸ Nat. Renewable Energy Laboratory, *NREL Calculates Lost Value of Landfilled Plastic
30 in the U.S.* (April 28, 2022) <<https://www.nrel.gov/news/press/2022/nrel-calculates-lost-value-of-landfilled-plastic-in-us.html>> (as of July 28, 2024); see also Beyond Plastics and The Last Beach
31 Cleanup, *supra*.

1 215. Moore's discovery inspired him to dedicate his career to studying marine
2 pollution. Other researchers followed suit and the issue received attention from mainstream
3 media. By the mid-2000s, the Garbage Patch had received broad media coverage and scientists
4 had found a total of five similar gyres where trash was concentrated.

5 216. Scientists studying the impacts of plastic pollution determined that nearly 90
6 percent of the floating mass of trash was plastic. Scientists also observed that albatross chicks
7 born near the floating trash consumed plastic items that they mistook for the sea life they
8 normally consume and that many of the chicks passed away. Plastic also caused the death of an
9 estimated one million other seabirds and a hundred thousand other sea mammals and turtles every
10 year.

11 217. Similar to the late 1980s and early 1990s, when ExxonMobil faced public
12 backlash over the volume of plastic waste that its business had created, ExxonMobil had a new
13 public relations crisis. By the mid-2000s, not only was the public aware that plastics produced an
14 enormous amount of waste, but the public now knew that vast amounts of plastic were flowing
15 into the ocean and causing untold damage to the marine environment and wildlife.

16 218. Patty Long, interim chief executive of the Plastics Industry Association,
17 reflected at an industry event in 2019 that “it’s been pretty uncomfortable ... as we have watched
18 images of plastic strewn over beaches and pictures of sea animals with ingested plastic.”⁹⁹

19 219. In 2008, the California Ocean Protection Council, a state agency, issued a
20 strategy to reduce marine litter, implementing its 2007 resolution addressing the same
21 concerns.¹⁰⁰ The strategy included reducing single-use plastic packaging, preventing and
22 controlling litter, removing litter, and coordination with other Pacific jurisdictions.¹⁰¹

23 220. In 2004, an oceanographer named Richard Thompson published a scientific
24 article documenting tiny pieces of plastic that he and his colleagues had discovered and collected

⁹⁹ Bruggers, *Booming Plastics Industry Faces Backlash as Data about Environmental Harm Grows*, Inside Climate News (Jan. 24, 2020) <<https://insideclimateneWS.org/news/24012020/plastics-marine-oceans-climate-change-oil-gas-carbon-emissions/>> (as of July 29, 2024).

¹⁰⁰ Cal. Ocean Protection Council, An Implementation Strategy for the California Ocean

¹⁰⁰ Cal. Ocean Protection Council, An Implementation Strategy for the California Ocean

¹⁰⁰ Cal. Ocean Protection Council, An Implementation Strategy for the California Ocean

¹⁰¹ *Ibid.* Protection Council Resolution to Reduce and Prevent Ocean Litter (Nov. 20, 2008) page 6.

¹⁰¹ *Ibid.* 60

1 in the beaches near Plymouth, United Kingdom. Thompson's study stated that the plastic
2 particles—which he called “microplastics”—appeared to be disintegrated fragments of larger
3 pieces of plastic. The number of microplastics from the 1980s and 1990s were much higher than
4 the numbers from the 1960s and 1970s, suggesting a link between plastic production and creation
5 of microplastics. The environmental consequences of the microplastics were unknown, but
6 deemed to warrant further study.

7 221. Suddenly, the public realized that plastics were actually everywhere and posed a
8 formidable danger.

9 **2. ExxonMobil reuses its old strategy of emphasizing recycling to divert
10 attention from plastic production.**

11 222. ExxonMobil, through its agents, servants and alter-ego industry groups,
12 disputed that plastic production was to blame for marine pollution. ExxonMobil worked to shift
13 any focus from itself as a resin producer to the consumers of plastic products. ExxonMobil
14 claimed that individuals are responsible for pollution through their behavior. Additionally, the
15 American Chemistry Council (ACC) told the press that “[t]he responsibility is with the people
16 who control the material, not those who produce it.” ACC further asserted that everyone shares a
17 responsibility to stop litter in order to prevent plastics from polluting the ocean.

18 223. As in previous decades, ExxonMobil perpetuated the false message that plastics
19 recycling would solve the problem of plastic waste and pollution, in order to distract the public
20 from concern over the environmental harm that plastics cause and to allow ExxonMobil to
21 produce new plastic at accelerating rates. In 2009, the ACC told CNN that most plastics are
22 recyclable and the next year said “Plastics don’t belong in the ocean—they belong in the
23 recycling bin. Plastics are a valuable resource—too valuable to waste as litter and as trash.”
24 ExxonMobil knew that these statements were false or likely to deceive the public, including
25 knowledge that most plastics could not be recycled at scale, that plastics would end up in the
26 ocean, and that there was no economic market for recycled plastic.

27 224. ExxonMobil, through the ACC, created new recycling initiatives to deceive the
28 public into believing that recycling could solve the marine pollution crisis. The ACC advertised

1 that it was working to expand recycling efforts, including recycling of plastic grocery bags,
2 educating children on marine debris, and campaigning to fight litter.

3 225. ACC organized an Earth Day program with students at 91 Los Angeles
4 afterschool programs to teach students about recycling. The same campaign ran a competition for
5 children's soccer teams in Southern California, challenging teams to collect the most recyclable
6 material in order to educate them on the importance of recycling and reducing litter. The ACC
7 explained that the children should be proud of their efforts because "the plastics they recycled
8 will go on to have second and third lives as useful new products."

9 226. In 2009, ACC and Keep America Beautiful partnered with California State
10 Parks (Parks) to promote recycling by providing recycling bins and signs at beaches throughout
11 the state. The same program also worked with the City of Los Angeles and the City of Woodland,
12 California to provide similar signs and recycling bins within those cities. ACC participated in the
13 California Coastal Cleanup Day, including donating 100,000 plastic bags for collecting waste.
14 ACC also sponsored a cleanup and recycling education program in San Diego with Parks.
15 However, ExxonMobil and its trade groups simultaneously aggressively pushed the false promise
16 of plastic recycling while continuing to saturate the public with ever-increasing amounts of
17 single-use plastic.

18 3. **ExxonMobil blames Asian countries for ocean plastics, even though
19 the same countries historically imported U.S. plastic waste.**

20 227. Prior to 2017, developed countries like the United States shipped most of their
21 plastic waste to China. But in 2018, China put in place its National Sword Policy, which banned
22 certain types of waste and lowered the acceptable rate of contamination of imports of recyclable
23 waste from five percent to 0.5 percent.

24 228. Most exporters of plastic waste were unable to meet China's new standards,
25 and, as a result, many of these plastics were landfilled or stored at recycling facilities. No markets
26 existed for plastic waste labeled with resin numbers 3 through 7. Some plastic waste was diverted
27 to secondary markets in different East and South Asian countries. Other countries, like Malaysia,
28 Thailand, and Vietnam, started introducing their own restrictions on the imports of plastic and

1 other waste after becoming inundated with the materials.

2 229. In some areas of the United States, municipal recycling services were forced to
3 a halt, finding that the lack of a market for recyclables meant that collection costs could no longer
4 be covered by selling the waste. The City of San Diego was charged over a million dollars by its
5 waste contractor in 2018. Other California municipalities were required to reduce the materials
6 collected. Sacramento, for example, ceased collection of plastics with resin numbers 4 through 7
7 and told residents to throw those items in the garbage.

8 230. In 2020, the ACC lobbied the United States to negotiate with Kenya to accept
9 imports of U.S. plastics and plastic garbage, in light of U.S. efforts to restrict use of plastic
10 products at home, and other countries' new unwillingness to accept U.S. plastic garbage.

11 231. The ACC, however, publicly claimed that marine plastic pollution was due to
12 Asian countries like China, Vietnam, Indonesia, and the Philippines failing to manage their own
13 waste.

14 232. In or around 2019, ExxonMobil was a founding member of the Alliance to End
15 Plastic Waste (Alliance), an organization formed to promote recycling, waste collection, and
16 cleaning areas impacted by plastic waste. Importantly, the Alliance does not promote projects that
17 limit the production of plastic and does not focus on projects for reuse of plastic. Through the
18 Alliance, ExxonMobil falsely emphasized and continues to emphasize recycling and waste
19 management as solutions to the plastic waste crisis, despite their inability to solve the crisis.
20 ExxonMobil pushed the Alliance to ensure that its mission would not include reducing the
21 production of plastic.

22 233. Consistent with ExxonMobil's deceptive position that plastic pollution in the
23 ocean is the fault of developing countries with poor waste management infrastructure, rather than
24 the inevitable result of unbridled plastic production, many of the Alliance's initiatives focused on
25 developing countries.

26 234. ExxonMobil's investments and actions through the Alliance, however, merely
27 create the outward appearance of taking action to address ocean pollution rather than actually
28 providing any relief. As of 2022, the Alliance had only diverted 34,000 tons of plastic waste from

1 entering the environment, including plastic that was ultimately landfilled or incinerated. This
2 represents a tiny fraction of the Alliance's goal to divert 15 million tons over its first five years,¹⁰²
3 and a negligible portion of the plastic produced by ExxonMobil that enters the ocean annually.

4 **4. ExxonMobil increased its production of virgin plastics in the 2010s.**

5 235. In the 2010s, ExxonMobil made significant investments into ramping up plastic
6 production in the United States. The glut of ethane produced by increased fracking of natural gas,
7 along with growing awareness of climate change and reduced demand for oil and gas as fuel,
8 made plastics an attractive growth area for petrochemicals. In 2018, the International Energy
9 Agency (IEA) reported that petrochemicals, including plastics, consumed 12 percent of oil
10 globally, but that petrochemicals would account for one third and one half of oil consumption by
11 2030 and 2050, respectively.

12 236. In 2017, ExxonMobil started producing polyethylene at its plastics plant in
13 Mont Belvieu, Texas. As of 2022, the plant was producing approximately five billion pounds of
14 low-density and high-density polyethylene products each year.

15 237. In 2019, ExxonMobil also began producing polyethylene at its plastics plant in
16 Beaumont, Texas. In the late 2010s, Exxon additionally expanded its production of plastics in its
17 Baytown, Texas facility.

18 238. Operation of another plastics facility in San Patricio County, Texas, owned
19 jointly by ExxonMobil and SABIC, a Saudi Arabian diversified chemicals company, began in
20 2022, increasing ExxonMobil's global polyethylene capacity by 1.3 million tonnes per year.

21 239. For decades, the deceptive promise of plastics recycling provided ExxonMobil
22 cover in times of public scrutiny of plastic products and allowed it to continue to produce more
23 and more plastic each year unchecked. This deception continues today.

24 **III. IN A MODERN TWIST, EXXONMOBIL NOW DECEPTIVELY PROMOTES "ADVANCED
25 RECYCLING" AS THE SOLUTION TO THE PLASTIC WASTE AND POLLUTION CRISIS.**

26 240. In recent years, images depicting the dire harms and costs of the overproduction

27 ¹⁰² Baker et al., *Inside Big Plastic's Faltering \$1.5 Billion Global Cleanup Effort*,
28 Bloomberg (Dec. 20, 2022) <<https://www.bloomberg.com/features/2022-exxon-mobil-plastic-waste-clean-up-greenwashing/>> (as of July 29, 2024).

1 of plastic such as beached whales and dead seabirds with their guts bursting with plastic waste
2 have flooded the internet and our collective consciousness. Further, an explosion of scientific
3 research has confirmed that plastic particles have infiltrated our bodies and even the most remote
4 places on Earth.¹⁰³ Justifiably, there has been renewed public outcry over the overproduction of
5 plastic and proliferation of unnecessary single-use plastics.

6 241. ExxonMobil knows that addressing plastic waste and pollution remains a high
7 priority for the public. ExxonMobil comprehensively tracks scientific research, articles, and
8 legislation on plastic waste and pollution, and regularly assesses public opinion about the crisis.
9 Indeed, internally, ExxonMobil notes that “[o]cean plastic waste [is] a top public concern.” In
10 response to the Minderoo Foundation’s Plastic Waste Makers Index 2021 report that found that
11 ExxonMobil is the biggest contributor of single-use plastic waste, internally, ExxonMobil feared
12 that “[t]he focus may be shifting from the brands/retailers to the producers.”

13 242. ExxonMobil is paying close attention to public opinion because it can hurt
14 ExxonMobil’s bottom line. ExxonMobil views public concerns about plastic waste, specifically,
15 about single-use plastic waste, as a “market threat.” ExxonMobil considers the production of
16 polyethylene and polypropylene used in single-use plastic applications as the “core” of its
17 chemicals and products portfolio, with “80% of EMCC’s growth [being] dependent on single-use
18 plastics applications.” Further, the predicted global decline in fossil fuel demand is driving
19 ExxonMobil to urgently move forward with promoting “advanced recycling” to offset sagging
20 fuel sales with profits from plastic sales. Thus, ExxonMobil has a strong financial motive to
21 assuage public concern about plastic waste.

22 243. ExxonMobil has knowingly disregarded the growing number of studies
23 concluding that a dramatic reduction in plastic production is necessary to address the plastic
24 waste and pollution crisis. Instead, ExxonMobil has turned to its demonstrably false, timeworn
25 playbook of convincing the public that we can recycle our way out of the plastic waste and
26 pollution crisis but with a modern twist: ExxonMobil now claims that “advanced recycling” will
27 address the shortcomings of mechanical recycling.

28 ¹⁰³ See Factual Background, Section I.A-C, above.

1 244. “Advanced recycling” (also known as “chemical recycling”)¹⁰⁴ is an umbrella
2 term used by the plastics industry to describe a variety of heat or solvent-based technologies that
3 can theoretically convert certain types of plastic waste into fuels,¹⁰⁵ chemicals, waxes, and
4 petrochemical feedstock, which, after further refinement, can be used to make new plastic. In the
5 United States and globally, pyrolysis is the most common type of proposed “advanced recycling.”
6 Typically, in a pyrolysis operation, plastic waste is heated in a standalone chamber until it yields
7 liquids, waxes, and gases. The liquid is composed of an oil mixture called “pyrolysis oil” or
8 “pyoil” that includes naphtha and other hydrocarbons. Naphtha is then “cracked” in a
9 petrochemical processing unit called a steam cracker, which breaks down the naphtha further into
10 various hydrocarbon products including ethylene, and propylene. Ethylene and propylene are then
11 polymerized to make plastic (polyethylene and polypropylene). However, very little of the plastic
12 waste that undergoes pyrolysis and subsequent processing makes it out as new plastic. A 2023
13 study by the National Renewable Energy Laboratory concluded that pyrolysis and gasification (a
14 similar technology) only retained 1 to 14 percent of the plastic waste inputted.¹⁰⁶

15 245. On December 14, 2022, ExxonMobil announced the start of its “advanced
16 recycling” program after a “successful” trial at its Baytown Complex in Texas. ExxonMobil
17 claims that its Baytown Complex can “recycle” 40,000 tonnes of plastic waste per year.
18 ExxonMobil claims that, through Baytown and other future ventures, it will process 500,000
19 tonnes of plastic waste per year by year-end 2026.

20 246. ExxonMobil’s version of “advanced recycling” involves “co-processing” plastic
21 waste. Similar to standalone pyrolysis units, co-processing uses heat to break down plastic waste.
22 But instead of doing so in a standalone chamber, plastic waste is fed into a preexisting oil refinery
23 processing unit called a coker. A minuscule amount of plastic waste is mixed into a large amount
24 of residual refinery materials (materials such as heavy oils and asphalts produced as byproducts

25 ¹⁰⁴ The plastics industry often uses the terms “advanced recycling” and “chemical
26 recycling” interchangeably.

27 ¹⁰⁵ As explained below, any process that creates fuels from plastics is not considered to be
28 “recycling.”

27 ¹⁰⁶ Uekert et al., *Technical, Economic, and Environmental Comparison of Closed-Loop
28 Recycling Technologies for Common Plastics* (2023) 11 American Chemical Society Sustainable
Chemistry & Engineering 965, 969.

1 of the distillation of crude oil in a refinery), and together they undergo the coking (heating)
2 process. The coking process yields mostly pyrolysis oil liquids and a small amount of pyrolysis
3 gas including ethane. Most “advanced recycling” operations that use pyrolysis technologies use
4 naphtha (a component of pyrolysis oil) as a feedstock for steam cracking. However, at its
5 Baytown Complex—the heart of ExxonMobil’s “advanced recycling” program—ExxonMobil
6 operates ethane steam crackers, not naphtha steam crackers. ExxonMobil feeds the small amount
7 of pyrolysis gas ethane produced from the coking process, alongside a much, much larger stream
8 of virgin ethane gas, into the ethane steam cracker to produce ethylene and propylene, some of
9 which is then polymerized to make plastic. The Baytown Complex does not feed naphtha into
10 ethane steam crackers. Naphtha produced in the coking process is instead used to primarily
11 produce fuels.

12 247. ExxonMobil calls the final product of its “advanced recycling” process
13 “certified circular polymers” and has announced the sale of these plastics to large plastic
14 packaging and product manufacturers, including but not limited to, Amcor, Berry Global, Pactiv
15 Evergreen, Pregis, Printpack, and Sealed Air.¹⁰⁷

16 ///

17 ¹⁰⁷ See, e.g., ExxonMobil Chemical, *News Release: Amcor Increases Use of Advance*
18 *Recycling Materials Leveraging ExxonMobil’s Exxtd Technology* (Apr. 12, 2022)
<https://www.exxonmobilchemical.com/en/resources/library/library-detail/93281/amcor_release_exxtend_en> (as of July 29, 2024); ExxonMobil, *News Release: ExxonMobil Makes First Commercial Sale of Certified Circular Polymers* (Feb. 24, 2022)
<https://corporate.exxonmobil.com/news/news-releases/2022/0224_exxonmobil-makes-first-commercial-sale-of-certified-circular-polymers> (as of July 29, 2024); *ExxonMobil Chemical, Press Release: Pactiv Evergreen and ExxonMobil Collaborate to Leverage Advanced Recycling for Foodservice Industry Packaging* (Sept. 27, 2023)
<https://www.exxonmobilchemical.com/en/resources/library/library-detail/109338/pactiv_evergreen_and_exxonmobil_collaborate_to_leverage_advanced_recycling_for_foodservice_industry_packaging_en> (as of July 29, 2024); ExxonMobil Chemical, *Press Release: Pregis Introduces Circular Innovation to PE Foam Solutions* (Feb. 21, 2024)
<https://www.exxonmobilchemical.com/en/resources/library/library-detail/111456/pregis_advanced_recycled_foam_press_release_february_2024> (as of July 29, 2024); Printpack, *Printpack, ExxonMobil, Pacific Coast Producers Bring Circularity to Fruit Cups* (Aug. 29, 2023) Packaging World <<https://www.packworld.com/supplier-news/news/22871469/printpack-printpack-exxonmobil-pacific-coast-producers-bring-circularity-to-fruit-cups>> (as of July 29, 2024); ExxonMobil Chemical, *News Release: ExxonMobil, Cyclyx, Sealed Air, and Ahold Delhaize USA Demo Advanced Recycling for Plastic Waste* (Apr. 27, 2023) <https://www.exxonmobilchemical.com/en/resources/library/library-detail/107131/circularity_demo_press_release_en> (as of July 29, 2024).

1 248. ExxonMobil boldly heralds this “proprietary advanced recycling technology” as
2 a breakthrough in recycling technology. But this purported breakthrough technology has been
3 available to ExxonMobil to employ in their production operations for decades. In fact, Mobil
4 patented the co-processing of plastic waste in cokers in 1978.¹⁰⁸ And both Exxon and Mobil
5 conducted co-processing pilots in the 1990s, neither of which continued beyond the trial phase as
6 public attention on plastic waste dwindled at that time.

7 249. Nevertheless, almost half a century after Mobil originally patented the co-
8 processing of plastic waste, ExxonMobil attempts to rebrand this technology as the “new” and
9 “advanced” solution in order to appease renewed public concern over plastic waste and pollution.

10 250. Internal communications show that ExxonMobil is advocating for public
11 acceptance of “advanced recycling” “to avoid the ‘negative’ impacts/consequences of the
12 looming implementation/adoption of the circular economy way of thinking.” ExxonMobil admits
13 that its driving motivation behind its “advanced recycling” push is that “the public perception
14 benefits received will be invaluable … even if it proves to not be financially sustainable.” This
15 startling admission harkens back to former Exxon Chemical vice president Irwin Levowitz’s 1994
16 admission that Exxon was “committed to the activities [of recycling plastic], but not committed to
17 the results.”

18 251. ExxonMobil’s aggressive promotion and marketing of “advanced recycling”
19 deceives its customers, investors, and the public at large. This modern-day campaign of deception
20 regarding “advanced recycling” is apparently working. ExxonMobil internally notes that
21 “[r]esearch shows that the public is increasingly aware of plastics issues but favorably receptive
22 to advanced recycling messages.” Like its promotion of mechanical recycling decades ago,
23 ExxonMobil’s promotion of “advanced recycling” is another deceptive marketing campaign
24 designed to encourage unabated consumption of its plastic products, rather than a real solution to
25 the extraordinarily harmful plastic waste and pollution crisis that ExxonMobil’s deception
26 substantially caused and continues to exacerbate.

27

28 ¹⁰⁸ Yan, Mobil Oil Corporation, Conversion of Solid Wastes to Fuel Coke and
Gasoline/Light Oil, U.S. Patent 4,118,281 (Oct. 3, 1978).

1 **A. ExxonMobil Conceals the Technical Limitations of Its “Advanced**
2 **Recycling” Program.**

3 252. ExxonMobil promotes its “advanced recycling” program as a technological
4 wonder. However, a closer look reveals that ExxonMobil has misled the public about the
5 technical capabilities of its co-processing technology.

6 **1. ExxonMobil destroys most of the plastic waste it co-processes.**

7 253. When a company claims that it “recycles” plastic waste, a reasonable consumer
8 would believe that most of the plastic waste that enters the recycling process would end up as new
9 plastic. In misleading statements in interviews and articles, ExxonMobil repeatedly suggests that
10 most or all of the plastic waste it co-processes in its “advanced recycling” program becomes new
11 plastic. However, as explained below, only a small portion of the plastic waste input actually
12 becomes new plastic. Examples of ExxonMobil’s deceptive talking points include:

- 13 • “Advanced recycling . . . break[s] down materials to their molecular level. These
14 ‘refreshed’ molecules then become the raw materials used to make brand-new
15 plastics and other valuable products. It truly gives a new life to plastic waste.”¹⁰⁹
- 16 • “[U]nlike mechanical recycling—where each round of recycling degrades the
17 plastic—there are no evident technical limitations regarding how many times a
18 plastic product can be put through advanced recycling processes.”¹¹⁰
- 19 • “That molecule will go into our unit where it will be broken down to its molecular
20 level and that molecule will end up becoming new plastic.”¹¹¹
- 21 • “Our process is efficient, converting about 90% of the plastic waste into raw

22

¹⁰⁹ ExxonMobil, *Advanced Recycling: A Different Way to Handle Used Plastics*
23 <<https://corporate.exxonmobil.com/what-we-do/materials-for-modern-living/a-different-way-to-handle-used-plastics>> (as of July 29, 2024).

24 ¹¹⁰ McKee, President, ExxonMobil Product Solutions, *ExxonMobil Steps Up Advanced*
25 *Recycling to Help Address Plastic Waste* (Mar. 30, 2021)
26 <<https://corporate.exxonmobil.com/news/viewpoints/steps-up-advanced-recycling-plastic-waste#:~:text=And%20unlike%20mechanical%20recycling%20%20E2%80%93%20where%20each%20round,product%20can%20be%20put%20through%20advanced%20recycling%20processes>> (as of July 29, 2024).

27 ¹¹¹ KPRC 2, *Efforts of Advanced Recycling* (Feb. 16, 2023, updated July 22, 2024)
28 Click2Houston.com <[https://www.click2houston.com/video/news/2023/02/16/efforts-of-advanced-recycling-/->](https://www.click2houston.com/video/news/2023/02/16/efforts-of-advanced-recycling-/) (as of July 29, 2024).

1 materials.”¹¹²

2

- 3 “It is a facility that is taking difficult to recycle plastics, plastics that would
- 4 otherwise end up in a landfill or incineration, and we are putting them into this unit
- 5 producing high quality raw materials that can then be used to make new plastic
- 6 products.”¹¹³
- 7
- 8 • The output is “high performance circular polymer. This is one of the beauties of
- 9 this process. We can take plastic waste in and convert it into materials with the
- 10 same quality as you have today.”¹¹⁴
- 11 • “For every pound of certified circular plastic our customers buy from us, they can
- 12 be confident that at least one pound of plastic waste was removed from the
- 13 environment and from the waste stream.”¹¹⁵

14 254. These types of statements misleadingly suggest that ExxonMobil’s “advanced

15 recycling” technology achieves 100 percent yield, i.e. that most or all of the plastic waste inputted

16 in the process becomes new plastic or other environmentally beneficial products.

17 255. However, 100 percent yield to new plastics, or anywhere close to it, is

18 technically impossible, and ExxonMobil knows this. At its Baytown Complex—currently the site

19 of ExxonMobil’s only active “advanced recycling” unit—a mere **eight percent** of the plastic

20 waste ExxonMobil co-processes in its cokers and ethane steam crackers becomes new plastics.

21 The remaining 92 percent of the plastic waste co-processed becomes primarily fuels, which are

22 ultimately destroyed after they are combusted. Therefore, ExxonMobil’s claims that there are no

23 limitations to endlessly recycling plastic waste are false because 92 percent of the plastic waste is

24

25 ¹¹² Zamora, Senior Vice President, ExxonMobil Product Solutions, *ExxonMobil: Bringing*
Advanced Recycling to Life (Nov. 14, 2023) Consumer Brands Assn.
<https://consumerbrandsassociation.org/blog/exxonmobil-bringing-advanced-recycling-to-life/> >
(as of July 29, 2024).

26 ¹¹³ BIC Magazine, *ExxonMobil Starts Up Large-Scale Advanced Recycling Facility in*
Baytown, Texas (Apr. 23, 2023) YouTube <<https://www.youtube.com/watch?v=psIhotx4oUI>> (as
of July 29, 2024).

27 ¹¹⁴ *Ibid.*

28 ¹¹⁵ See, e.g., Skewes, *ExxonMobil Advanced Recycling Changes Plastic’s Destiny*, The
Baytown Sun (Apr. 16, 2023) <https://baytownsun.com/local/exxonmobil-advanced-recycling-changes-plastic-s-destiny/article_86e61a0e-da32-11ed-a571-cb855cdf8807.html> (as of July 29,
2024).

1 destroyed (not made into new plastics) in each processing cycle. But the low yield is not due to
2 using pyrolysis gas ethane as the feedstock to the crackers. In a potential future “advanced
3 recycling” project at another ExxonMobil Gulf Coast plant site that would employ pyrolysis oil
4 naphtha as the feedstock to naphtha steam crackers, a mere 13 percent of the plastic waste would
5 become new plastics.

6 256. ExxonMobil, of course, omits this critical piece of information in public
7 statements. ExxonMobil knows that its “advanced recycling” program would not gain traction
8 and public acceptance if it had to admit that most of what it yields is not plastic but rather fuels.
9 The truth is ExxonMobil’s “advanced recycling” program is less like a recycling program, and
10 more like a waste disposal or destruction program akin to the incineration solutions advocated by
11 ExxonMobil in the past.

12 **2. ExxonMobil’s “certified circular polymers” are effectively virgin
13 polymers due to inherent technical equipment limitations.**

14 257. When plastic is mechanically recycled, the plastic downgrades, and the final
15 product is aesthetically unpleasing or unsafe to use for things like food packaging or medical
16 applications. ExxonMobil claims that its “advanced recycling” technology solves that dilemma,
17 as its “certified circular polymers are identical to polymers produced from virgin raw
18 materials.”¹¹⁶ ExxonMobil has even announced sales to major converters (companies that
19 specialize in transforming raw plastic materials into finished products) and brands touting that its
20 “certified circular polymers” can and would be used in food-safe applications such as fruit cups
21 and food packaging.¹¹⁷ These “certified circular polymers” would be produced at its Baytown
22 facility.

23 258. ExxonMobil is correct that its “certified circular polymers” are, in fact, identical
24 to its virgin polymers. But this is not because co-processing magically transforms plastic waste
25 into virgin-like plastics. They are identical because, as explained below, ExxonMobil’s “certified

26 ¹¹⁶ ExxonMobil, *News Release: ExxonMobil Makes First Commercial Sale of Certified
27 Circular Polymers, supra.*

28 ¹¹⁷ Printpack, *Printpack, ExxonMobil, Pacific Coast Producers Bring Circularity to Fruit
Cups, supra*; ExxonMobil, *Press release: Pactiv Evergreen and ExxonMobil Collaborate to
Leverage Advanced Recycling for Foodservice Industry Packaging, supra.*

1 circular polymers" actually contain virtually no waste plastic.

2 259. Oil and gas refinery and petrochemical units are not designed to process large
3 volumes of plastic waste, which contains a wide range of corrosive additives and contaminants. In
4 order to protect its expensive equipment, ExxonMobil caps the amount of plastic waste it feeds
5 into its cokers at only one to two percent of the total amount inputted, meaning that *98 to 99*
6 *percent of the coker's feed is comprised of virgin refinery residual materials*. Accordingly, any
7 pyrolysis oil or pyrolysis gas produced will be overwhelmingly derived from virgin materials.
8 Indeed, an independent study of ExxonMobil's plastic co-processing operations found that
9 feeding only one to two percent plastic waste is such an insignificant proportion of the total
10 flexicoker feed that the plastic waste "should all but disappear in the coking process."¹¹⁸ The
11 study concludes that ExxonMobil could even feed one percent parking lot dirt into its cokers and
12 not upset the process because of dilution.¹¹⁹

13 260. As noted above, the 40,000 tonnes of plastic waste ExxonMobil purportedly co-
14 processes at Baytown per year yields predominantly pyrolysis oil liquids. It yields a small amount
15 of pyrolysis gas including ethane. ExxonMobil then mixes this small amount of ethane with a
16 much, much larger stream of virgin ethane, and together they are fed into an ethane steam cracker
17 to make ethylene and propylene.

18 261. According to internal documents, the amount of plastic-derived ethane only
19 constitutes **0.09 percent** of the total ethane stream fed into the ethane steam cracker at Baytown.
20 This means that any plastic made from the resulting ethylene and propylene could only be
21 composed of a maximum of **0.09 percent** plastic waste.

22 262. However, in May 2024, ExxonMobil stated that it did not process plastic waste
23 at the full 40,000 tonnes/year design capacity of the Baytown "advanced recycling" facility, but
24 rather processed only 22,000 tonnes of plastic waste over 15 months.¹²⁰ Based on this actual

25 ¹¹⁸ Nix, Green Group Consulting, Plastic Recycling – Challenges and Opportunities (Feb.
26 6, 2023) page 15.
27 ¹¹⁹ *Ibid.*

¹²⁰ ExxonMobil, *Doubling Down on Advanced Recycling in Baytown* (May 6, 2024)
<<https://corporate.exxonmobil.com/what-we-do/materials-for-modern-living/advanced-recycling-baytown->

28 (continued...)

1 operating data, the average amount of plastic made from “advanced recycling,” or plastic waste,
2 would only constitute **0.042 percent** of the total amount of plastic produced at Baytown on an
3 annual basis.

4 263. With a maximum physical content of just 0.042 to 0.09 percent plastic waste,
5 ExxonMobil’s “advanced recycling” effectively produces a product that is made almost entirely
6 of virgin (new) plastic, but which it nonetheless markets as being a “circular” plastic polymer. In
7 other words, ExxonMobil’s “certified circular polymers” *effectively are* virgin (new) plastics.

8 **3. ExxonMobil’s “advanced recycling” technology cannot process large
9 volumes of mixed post-consumer single-use plastic waste.**

10 264. When thinking about the plastic waste and pollution crisis, the public generally
11 is most concerned about post-consumer single-use plastic waste—plastic packaging such as
12 potato chip bags and plastic cups that leak into and visibly pollute the environment. ExxonMobil
13 claims to be able to “recycle” these types of everyday plastic products through its “advanced
14 recycling” program “to help reduce plastic waste in the environment.”¹²¹ According to
15 ExxonMobil, “[a]dvanced recycling also helps remove contaminants, and it can accommodate
16 mixed and soiled plastic waste.”

17 265. For example, in a blog post, ExxonMobil describes its “advanced recycling”
18 capability as follows: “Imagine your discarded yogurt containers being transformed into medical
19 equipment for your next doctor’s appointment, and then into the dashboard of your next fuel-
20 efficient car.”¹²² On a radio interview, ExxonMobil claimed to be able to process “motor oil
21 bottles with oily residue in it, the bubble wrap we get in our latest Amazon packages, pet food
22 bags, chip bags, candy wrappers.” In a video interview, ExxonMobil states: “What we put on the
23 front end here is a really special unit that gets solid plastic waste and all kinds of different

24
25 unit#:~:text=%E2%80%9CThe%20interest%20from%20our%20customers,sustainability%20pled
ges%2C%E2%80%9D%20Mastroleo%20said> (as of July 29, 2024).

26 ¹²¹ ExxonMobil, *News Release: ExxonMobil Tests Advanced Recycling of Plastic Waste at*
27 Baytown Facilities (Feb. 25, 2021) <https://corporate.exxonmobil.com/news/news-releases/2021/0225_exxonmobil-tests-advanced-recycling-of-plastic-waste-at-baytown-facilities> (as of July 29, 2024).

28 ¹²² McKee, President, ExxonMobil Product Solutions, *ExxonMobil Steps Up Advanced Recycling to Help Address Plastic Waste*, *supra*.

1 varieties into a unit so that we can process it into a raw material that other units can use.”¹²³

2 266. ExxonMobil wants the public to believe that its “advanced recycling” program
3 can process mixed and post-consumer plastics that mechanical recycling cannot.

4 267. However, pyrolysis “advanced recycling,” or “chemical recycling,” technology
5 cannot process high volumes of mixed post-consumer plastic waste like potato chip bags and
6 candy wrappers. Indeed, a recent study commissioned by the Association of Plastic Recyclers
7 confirmed that mixed post-consumer film and flexible packaging (FFP) is not currently suitable
8 for pyrolysis “advanced recycling.”¹²⁴ Despite publicly promoting its “advanced recycling”
9 program as addressing our everyday residential plastic waste, ExxonMobil knows that such
10 plastic waste is too contaminated, has too many additives that can harm refinery equipment, and
11 is too compositionally and chemically variable to safely co-process in cokers and then steam
12 crackers in large volumes.

13 268. Internally, ExxonMobil flags contaminant management as the “Biggest
14 Challenge” of co-processing plastic waste. ExxonMobil characterizes the “[i]mpacts [of
15 contaminants] on unit operability from processing plastics” as a technical risk.

16 269. ExxonMobil’s own chemical engineers internally caution that contaminants
17 from plastic may pose a performance risk to its equipment.

18 270. Additionally, an internal ExxonMobil document admits that “[n]ot all post-use
19 plastics are appropriate for chemical recycling” and “[n]ot all post-use plastics are appropriate as
20 feedstock for all chemical recycling product pathways.” Because of this, ExxonMobil internally
21 concluded that “[c]ontaminant mgmt. requires tailoring of accessible feed.”

22 271. ExxonMobil’s solution to this problem is to only use clean, clear, and
23 compositionally uniform plastic primarily from post-commercial and post-industrial sources—
24 things like clear plastic wraps used by businesses on pallets and bubble wrap.¹²⁵ For example, in

25 ¹²³ BIC Magazine, *ExxonMobil Starts Up Large-Scale Advanced Recycling Facility in*
26 *Baytown, Texas, supra.*

27 ¹²⁴ Eunomia Research & Consulting, *How to Scale the Recycling of Flexible Film*
28 *Packaging: Modeling Pyrolysis’ Role in Collection, Quantity and Costs of a Comprehensive*
Solution (Mar. 2024) page 6.

¹²⁵ Internal documents show that ExxonMobil is struggling to secure an adequate amount
(continued...)

1 one of its agreements for collecting plastic waste to use as feedstock at its Baytown “advanced
2 recycling” facility, ExxonMobil explicitly directs its partner, Cyclyx, to collect “Post-Use
3 Plastic,” which is defined to include pre-consumer material such as clean industrial waste. In
4 addition, in the same agreement, ExxonMobil explicitly specifies that polystyrene—which
5 includes Styrofoam and common items such as red plastic cups and plastic plates—is to be
6 minimized. Polystyrene foam foodware, such as cups and plates, is known to make up a
7 substantial amount of particularly pernicious plastic waste and pollution, leading to several
8 attempts to ban such products in California.¹²⁶

9 272. Despite understanding the technical limitations of co-processing mixed post-
10 consumer plastic waste, ExxonMobil tailored its public messaging to convince the public that
11 ExxonMobil is addressing post-consumer plastic waste from non-commercial and non-industrial
12 sources. For example, ExxonMobil’s partner, Cyclyx, proposed a press release that explained that
13 “Cyclyx will source post-use mixed waste plastic for [its circularity center] via *existing*
14 *commercial and industrial sources.*” ExxonMobil’s Vice-President for Sustainability struck the
15 words “existing commercial and industrial sources” and explained to Cyclyx that the “language
16 seems a bit restrictive regarding feed sources (i.e. one ‘existing commercial and industrial’) and
17 could be interpreted as not collaborative with existing municipal waste. I changed the language to
18 something a bit more aspirational and collaborative.” ExxonMobil suggested alternative
19 “aspirational” language, which was ultimately used in the final release. The final release reads:
20 “Cyclyx will source post-use mixed waste plastic for [its circularity center] via a range of existing
21 sources and is continuing to expand its collaboration with companies from across the value chain
22 to develop circular solutions for difficult-to-recycle plastic waste.”

23 **B. ExxonMobil Deceives Its “Certified Circular Polymer” Customers.**

24 273. As noted above, ExxonMobil’s “advanced recycling” program effectively

25 _____
26 of plastic waste suitable for its co-processing operation so that it has actively sought other types
27 of non-single-use-plastic materials such as used cooking oil, artificial turf, and waste tires to co-
process in an effort to keep pace with its publicly-stated “recycling” goals and customer demand.

28 ¹²⁶ See Factual Background, Section II, above; see also Cal. Coastal Com., *California Coastal Cleanup Day History* <<https://www.coastal.ca.gov/publiced/ccd/history.html>> (as of July 29, 2024).

1 produces virgin polymers, because only a tiny amount of plastic waste is fed to the process and
2 only eight percent of that plastic waste is potentially converted to new plastics, resulting in plastic
3 end products with a plastic waste content of about 0.042 to 0.09 percent. In other words,
4 “advanced recycling,” at best, results in new plastic products that are 99.958 to 99.91 percent
5 virgin (new) plastic on an annual basis. Nevertheless, ExxonMobil markets these polymers as
6 “certified circular polymers”—brazenly claiming that they were made from plastic waste, even
7 though they may contain very little or no recycled plastic at all.

8 274. ExxonMobil closely follows announcements by major converters, brands, and
9 retailers about their respective commitments to incorporate more recycled plastic in their product
10 offerings. ExxonMobil is aware that these large companies are willing to pay more money for
11 recycled plastics. Accordingly, ExxonMobil regularly conducts outreach to these companies to
12 persuade them to purchase its “certified circular polymers,” including companies based in or that
13 otherwise do business in California. For example, ExxonMobil announced a partnership with
14 Printpack, a packaging converter, and Pacific Coast Producers, a California-based agricultural
15 company that produces various fruit products, to package certain fruit cups using ExxonMobil’s
16 “certified circular polymers.”¹²⁷ These fruit cups, which are deceptively promoted as having
17 “30% ISCC PLUS certified-circular content” have reached California consumers.¹²⁸

18 275. Over the last few years, ExxonMobil has announced the sale of its “certified
19 circular polymers” to other large plastic packaging and product manufacturers, including but not
20 limited to, Amcor, Berry Global, Pactiv Evergreen, Pregis, and Sealed Air. These announcements
21 give the public the impression that ExxonMobil’s “certified circular polymers” from “advanced
22 recycling” have significant environmental benefits, are part of a “circular economy,” and “expand
23 the range of plastic materials that society recycles.”¹²⁹

24 276. However, internal documents show that ExxonMobil’s sales of its “certified

25 ¹²⁷ Printpack, *Printpack, ExxonMobil, and Pacific Coast Producers Bring Circularity to*
26 *Fruit Cups, supra.*

27 ¹²⁸ ISCC PLUS certification is discussed in detail in Section III.D, below.

28 ¹²⁹ ExxonMobil, *ExxonMobil Makes First Commercial Sale of Certified Circular*
Polymers, supra; indeed, ExxonMobil uses the terms “circular,” “recycled,” and “recycled
content” interchangeably in its various and many public announcements for its “advanced
recycling” technology and products.

1 circular polymers” are based on the deception that for every ton of plastic waste inputted into its
2 process, nearly a ton of “certified circular polymers” is produced—i.e., 92.6 to 100 percent yield.
3 ExxonMobil then charges a premium to its customers for these “certified circular polymers.” As
4 noted above, ExxonMobil destroys or turns into fuel (that will later be combusted) and other non-
5 circular products most of the plastic waste it feeds into its “advanced recycling” operation. If any
6 plastic waste is converted to new “recycled” plastic, at most it will constitute only 0.042 to 0.09
7 percent of the new plastic sold on an annual basis. Therefore, these customers are essentially
8 purchasing virgin plastics masquerading as “recycled” plastics.

9 277. Neither the average person, nor California law or federal policymakers,
10 understand this to be “recycling.” The definition of “recycling” in the California Public Resources
11 Code explicitly does not include plastic waste processed via pyrolysis or incineration.¹³⁰
12 California Public Resources Code section 40180 clearly defines “Recycling” and specifically
13 states that it does not include “Transformation.” Public Resources Code section 40201 states:
14 “‘Transformation’ means incineration, **pyrolysis**, distillation, or biological conversion other than
15 composting.” (Emphasis added.) Likewise, Public Resources Code section 42355.51, subdivision
16 (f), states that “recycling,” “recyclable,” and “recyclability” do not include transformation, as
17 defined in Section 40201, . . . or production of fuels.” In addition, in its Draft National Strategy to
18 Prevent Plastic Pollution, the United States Environmental Protection Agency recently reaffirmed
19 its position that it does not consider plastic waste that is processed into fuels or for energy
20 production as “recycling.”¹³¹

21 278. ExxonMobil is also misleading its customers regarding the greenhouse gas
22 (GHG) reduction benefits of its “advanced recycling” process. ExxonMobil proactively and
23 repeatedly states that the materials produced through this process have a lower carbon footprint
24 compared to plastic made from fossil fuels.¹³² However, a closer examination reveals significant

25 ¹³⁰ Pub. Resources Code, § 40180.
26

¹³¹ EPA Office of Resource Conservation and Recovery, U.S. Environmental Protection
27 Agency, Draft National Strategy to Prevent Plastic Pollution, *supra* [“EPA reaffirms that the
Agency does not consider activities that convert non-hazardous solid waste to fuels or fuel
substitutes (“plastics-to-fuel”) or for energy production to be “recycling” activities.”].

28 ¹³² ExxonMobil, *ExxonMobil Shares Carbon Footprint Assessment of Proprietary*
(continued...)

gaps and misleading claims.

2 279. ExxonMobil publicly claims that its “advanced recycling” technology enhances
3 the circularity of plastics with reduced GHGs on a feedstock basis, but does not disclose the GHG
4 emissions on the full plastic production basis that is needed to make an accurate comparison. For
5 instance, in its 2023 Advancing Climate Solutions Progress Report, ExxonMobil stated, “Our
6 advanced recycling technology enhances the circularity of plastics with reduced greenhouse gas
7 emissions on a feedstock basis. According to a 2022 carbon footprint assessment by Sphera,
8 every ton of waste plastic processed using our advanced recycling technology results in at least
9 19% lower greenhouse gas emissions compared to processing the same amount of crude-based
10 feedstocks.”¹³³ Additionally, ExxonMobil states on its website that “waste plastic has a relatively
11 low carbon footprint compared to fossil-based feedstock.”¹³⁴

12 280. Contrary to ExxonMobil’s claims, full product life cycle assessments conducted
13 by plastic producers like BASF¹³⁵ and SABIC¹³⁶ consistently show that the total carbon footprint
14 for producing new olefins through pyrolysis of plastic waste and naphtha steam cracking exceeds
15 that of virgin hydrocarbons. The BASF report found that pyrolysis of plastic waste to produce
16 new plastic can only be claimed to emit less CO₂ (GHG) than production from virgin
17 hydrocarbons if significant hypothetical savings of CO₂ (GHG) emissions from incineration of
18 end-of-life plastic waste are included.”¹³⁷

19 281. A separate Sphera report on plastic film recycling, commissioned by the
20 Consumer Goods Forum (CGF), confirms that GHG emissions from pyrolysis “advanced
21 recycling” and naphtha steam cracking are lower than emissions from virgin plastic production

Advanced Recycling Technology <<https://www.exxonmobilchemical.com/en/exxonmobil-chemical/sustainability/advanced-recycling-technology/carbon#:~:text=The%20following%20conclusions%20are%20from,amount%20of%20fossil%2Dbased%20feedstock/>> (as of July 29, 2024).

¹³³ ExxonMobil, 2023 Advancing Climate Solutions Progress Report (Dec. 15, 2022).
¹³⁴ ExxonMobil, *ExxonMobil Shares Carbon Footprint Assessment of Proprietary Advanced Recycling Technology*, *supra*.

¹³⁵ BASF, Life Cycle Assessment (LCA) for ChemCycling and Measurement Program for Pyrolysis Oil (Dec. 2023).

¹³⁶ SABIC, *Certified Circular Polymers via Advanced Recycling of Mixed Plastic Waste* (Mar. 2021).

¹³¹ BASF, *ChemCycling: Environmental Evaluation by Life Cycle Assessment* (May 2020)

page 5.

1 only when the latter includes the hypothetical carbon emissions from incinerating virgin plastic
2 products at end of life.¹³⁸ However, when compared to producing and then landfilling virgin
3 plastic products (where end of life carbon emissions are not counted), the report finds that
4 “advanced recycling” emissions are 20 percent higher.¹³⁹ The CGF Sphera report indicates that
5 “advanced recycling” emissions are lower than emissions from virgin plastic when 45 percent of
6 virgin plastic is incinerated at end-of-life.¹⁴⁰ The assumption that 45 percent of virgin plastic is
7 incinerated at end-of-life is not credible because it is far higher than the current nine percent
8 plastic incineration rate in the U.S. according to the U.S. Department of Energy.¹⁴¹ In California,
9 only about one percent of municipal waste is incinerated (transformed).¹⁴²

10 282. Furthermore, the CGF Sphera report includes the hypothetical carbon emissions
11 from incinerating virgin plastic products at the end of life while omitting GHG emissions from
12 incinerating “advanced recycling” products at end-of-life, skewing the comparison in favor of
13 “advanced recycling.” Thus, claims that “advanced recycling” inherently results in lower GHG
14 emissions are based on the inclusion of inflated and deceptive assumptions about end-of-life
15 scenarios.

16 283. The American Chemistry Council, of which ExxonMobil is a member and
17 provides millions of dollars,¹⁴³ also touts the climate change benefits of ExxonMobil’s “advanced
18 recycling” process, stating: “In addition, co-processing plastic waste via ExxonMobil’s advanced
19 recycling approach results in lower greenhouse gas emissions than using virgin feedstocks when
20 analyzed on an ISO 14067 feedstock basis (ExxonMobil estimates; cradle-to-process unit outlet

22
23 ¹³⁸ Sphera, *Life Cycle Assessment of Chemical Recycling for Food Grade Film, On behalf of the Consumer Goods Forum* (Apr. 7, 2022) page 52 <[Life-Cycle-Assessment-of-Chemical-Recycling-for-Food-Grade-Film.pdf](https://www.sphera.com/-/media/assets/lca/white-papers/life-cycle-assessment-of-chemical-recycling-for-food-grade-film.pdf)> (as of July 29, 2024).

24 ¹³⁹ *Ibid.*

25 ¹⁴⁰ *Ibid.*

26 ¹⁴¹ Milbrandt et al., *Quantification and Evaluation of Plastic Waste in the United States* (Apr. 22, 2022) Resources, Conservation and Recycling page 4 (funded by the U.S. Dept. of Energy).

27 ¹⁴² Cal. Dept. of Resources Recycling and Recovery (CalRecycle), 2022 State of Disposal and Recycling Report (Feb. 8, 2024) page 6 (Figure 1 “Estimated Management of 76 Million Tons of Materials Generated in California in 2022”).

28 ¹⁴³ See Parties Section III, above.

1 boundary).¹⁴⁴

2 284. Yet, ExxonMobil will not stand behind its process and product's climate
3 benefits and GHG emission reduction claims. To the contrary, ExxonMobil does not provide the
4 Sphera Co-Processing Life Cycle Assessment Report to the public,¹⁴⁵ and, tellingly, it states
5 elsewhere that its ISCC PLUS "certification" of its "certified circular polymers" is not a claim of
6 GHG benefits.¹⁴⁶ While ExxonMobil publicly claims significant GHG reductions through its
7 "advanced recycling" processes, these assertions are based on selective data presentation and
8 problematic assumptions that mislead consumers.

9 **C. ExxonMobil Deceptively Suggests That Its "Advanced Recycling" Program
10 Will Solve the Plastic Waste and Pollution Crisis, When in Reality It Will
11 Only Account for 1 Percent or Less of Its Total Plastic Production
12 Capacity by 2026.**

13 285. ExxonMobil makes public statements claiming that "advanced recycling" can
14 "scale" to solve the global plastic waste and pollution crisis. Publicly, ExxonMobil claimed that
15 the company's advanced recycling operation was a "proven technology that is scalable."

16 286. While ExxonMobil makes claims that "advanced recycling" is a revolutionary
17 invention that would "scale" to solve the global plastic waste and pollution crisis, in reality
18 ExxonMobil's "advanced recycling" program will not even make a dent in displacing its own
19 virgin plastic production. And ExxonMobil knows this. Its own chemical engineers point out that
20 because the yield of its "advanced recycling" process is so low, "there will continue to be a
growing need for virgin resin even as recycle rates are anticipated to increase."

21 ¹⁴⁴ American Chemistry Council, *ExxonMobil Working to Advance Plastics Recycling in
22 Houston and Beyond* (June 7, 2022) <<https://www.americanchemistry.com/chemistry-in-america/news-trends/blog-post/2022/exxonmobil-working-to-advance-plastics-recycling-in-houston-and-beyond/>> (as of July 29, 2024).

23 ¹⁴⁵ Bruggers, *Exxon's New 'Advanced Recycling' Plant Raises Environmental Concerns*,
24 The Guardian (Apr. 10, 2023) <<https://www.theguardian.com/us-news/2023/apr/10/exxon-advanced-recycling-plastic-environment/>> (as of July 29, 2024); Inside Climate News, *The Missing Equations at ExxonMobil's Advanced Recycling Operation* (Nov. 1, 2023)
<<https://insideclimateneWS.org/news/01112023/missing-equations-exxonmobil's-advanced-recycling-operation/>> (citing independent chemical engineer who called ExxonMobil's climate estimates "dubious") (as of July 29, 2024).

25 ¹⁴⁶ ExxonMobil, *Expanding the Plastics Life Cycle* (Jan. 8, 2024)
<<https://corporate.exxonmobil.com/sustainability-and-reports/sustainability/creating-sustainable-solutions/expanding-the-plastics-life-cycle#Strengtheningcircularitywithadvancedrecycling/>> (as
26 of July 29, 2024); ISCC PLUS certification is discussed in more detail, *post*.

1 287. According to documents filed by ExxonMobil with the U.S. Securities and
2 Exchange Commission from 2008 to 2023, ExxonMobil’s plastic-making capacity (including
3 polyethylene and polypropylene) increased 56 percent from 9.3 million tonnes in 2008 to 14.5
4 million tonnes per year in 2023.

5 288. ExxonMobil proudly boasts that by the end of 2026 it will process 500,000
6 tonnes of plastic waste per year through its “advanced recycling” program. Based on
7 ExxonMobil’s yield of only eight percent to new plastic, only 40,000 tonnes of new plastic would
8 be produced from recycled plastic. This 40,000 tonnes of new plastic made from recycled plastic
9 would only constitute a very small **0.27 percent** of ExxonMobil’s total plastic production
10 capacity of 14.5 million tonnes in 2023. This is not surprising given that ExxonMobil has
11 invested an unprecedented \$20 billion under its “Growing the Gulf” initiative to expand virgin
12 plastic production capacity, and has only made \$154.5 million in capital investments for its
13 “advanced recycling” program. This \$154.5 million investment in “advanced recycling” only
14 constitutes **0.77 percent** of the \$20 billion ExxonMobil invested in ramping up virgin plastic
15 production.

16 289. And since ExxonMobil’s plastic production capacity is anticipated to increase
17 by at least 2.5 million tonnes between 2023 and 2026, to 17 million tonnes per year, the fraction
18 of new plastic made from recycled plastic waste could be even less (0.23 percent) by the end of
19 2026.

20 290. Therefore, even if ExxonMobil were somehow able to resolve all the economic
21 and technical issues with its “advanced recycling” program and reach its 500,000 tonnes/year
22 plastic waste processing promise, the impact would be negligible, especially in light of
23 ExxonMobil’s intent to continue expanding its virgin plastic producing capacity. The numbers
24 alone show that ExxonMobil’s “advanced recycling” program is a public relations stunt, without
25 any prospect of meaningfully reducing the amounts of plastic waste or virgin plastic ExxonMobil
26 produces. Despite deceptively touting its “revolutionary” “advanced recycling” program as a
27 solution to the plastic waste crisis, ExxonMobil continues to knowingly overwhelm the waste
28 management system with ever increasing volumes of virgin, single-use plastics.

1 291. ExxonMobil appears to have first publicly stated its very small global plastic
2 waste processing goal in October 2021, with an achievement date of the end of 2026. However,
3 there is evidence ExxonMobil is failing to make progress toward even this minor goal. In March
4 2021, ExxonMobil announced a collaboration with Plastic Energy to initially process 25,000
5 tonnes per year of plastic waste into pyrolysis oil that would be converted to new plastic in
6 ExxonMobil's refinery in France. The anticipated start date was 2023, but no announcement of
7 the pyrolysis unit startup was ever made. However, on April 11, 2024, ExxonMobil announced
8 that it was shutting down the virgin plastics production unit at the refinery. This indicates that the
9 pyrolysis unit will not be built and operated as promised.

10 292. In addition, in March 2022, ExxonMobil was reportedly considering its Baton
11 Rouge, Louisiana refinery as a site that it would invest in an "advanced recycling" unit. This
12 claim was repeated by ExxonMobil in public statements in subsequent years, including as
13 recently as November 2023. But in February 2024, ExxonMobil's CEO stated that the investment
14 in the "advanced recycling" unit in the Baton Rouge refinery was uncertain.

15 **D. ExxonMobil's Promotion of Its ISCC PLUS Certification Is Deceptive.**

16 293. ExxonMobil publicly touts that its "advanced recycling" polymers are
17 "certified" by a third party, the International Sustainability and Carbon Certification (ISCC).
18 ISCC is a German-based entity that provides various schemes for "certifying" products as being
19 in line with its requirements. It is an unregulated, entirely voluntary process that is promoted by
20 the chemical and plastics industries. ISCC states that "[w]ith our certification we contribute to
21 environmentally, socially and economically sustainable production" and "[t]hrough the utilisation
22 of recycled materials or materials derived from biological waste, companies can accelerate the
23 transition to a circular economy." However, the ISCC certification scheme employed by
24 ExxonMobil is actually a false and misleading marketing scheme, which ExxonMobil uses to
25 mislead the public into believing that products made with "certified circular polymers" have
26 significant environmental benefits or are made of plastic waste when in fact they likely contain
27 little to no actual "advanced recycling" content.

28 294. ISCC's members are predominantly from the private sector, including the

1 chemical and plastics industries. ExxonMobil is a member of the ISCC Association, and has
2 participated on its technical committee. Although ISCC is not new, it has only recently started
3 providing certifications of plastic products via the ISCC PLUS certification scheme, starting in or
4 about 2018-2019.

5 295. ISCC's certification programs for materials in other sectors have been criticized
6 as inadequate and have even been linked to scams, including in the European biofuels industry.
7 "Critics say [the ISCC] relies on self-reporting from companies and lacks systematic testing of
8 imports into the EU—a setup one analyst described as 'essentially an honor system.'"¹⁴⁷

9 296. ExxonMobil obtains ISCC PLUS certificates from an Emeryville, California-
10 based company named Scientific Systems, Inc. dba SCS Global Services. These "certificates"
11 provide minimal information. For example, no information is provided on the plastic waste source
12 (pre- or post-consumer), process amounts, process losses, byproducts produced, or yield of plastic
13 waste to new plastic production that would allow consumers to understand how much plastic
14 waste actually becomes new plastic and whether noncircular byproducts, such as fuels which will
15 be combusted, are produced.

16 297. These ISCC PLUS certificates purport to represent a certain amount of plastic
17 polymers that have been produced from plastic waste via ExxonMobil's "advanced recycling"
18 facilities. ExxonMobil self-determines the number of certificates that it can sell and then sells
19 these certificates at a premium price to customers, such as plastic packaging companies, that
20 ExxonMobil knows would like to make environmentally friendly claims to the public.
21 ExxonMobil has made numerous false representations to the public, including Californians, that
22 the products "certified" by ISCC contain a certain percentage of "certified circular polymers,"
23 sometimes up to 90 to 100 percent. ExxonMobil has also made numerous misleading statements
24 to the public, including Californians, that its ISCC PLUS certification ensures "circularity" and
25 other substantial environmental benefits of the products that result from "advanced recycling."

26 298. In reality, the ISCC PLUS certification utilized by ExxonMobil allows for little

27 27 ¹⁴⁷ Moskowitz et al., *How Biofuels Scams Have Undermined A Flagship EU Climate*
28 *Policy* OCCRP (July 4, 2023) <<https://www.occrp.org/en/investigations/how-biofuels-scams-have-undermined-a-flagship-eu-climate-policy>> (as of July 29, 2024).

1 to no physical traceability between its “advanced recycled” polymers to the products that
2 consumers are purchasing. In fact, products marketed as having ISCC PLUS “certified circular
3 polymers” likely contain little to no physical recycled content or environmental benefits at all.
4 This is because the ISCC PLUS certification that ExxonMobil uses allows “mass balance” with
5 “free allocation” or “free attribution.”

6 299. “Mass balance” is an accounting approach used to track the inputs and outputs
7 of a substance throughout a process, such as the “advanced recycling” process. In the context of
8 “advanced recycling,” it allows companies to account for the conversion of a mixture of virgin
9 plastic and waste plastic to new plastic and other products through the processing system.

10 300. “Free allocation” takes “mass balance” into the imaginary realm and divorces
11 the need for end products to reflect the actual amount of physical waste plastic content that the
12 products contain. It is an accounting exercise by which ExxonMobil can choose to allocate all of
13 the waste plastic it puts into the system into one of many different end products, even if no actual
14 waste plastic polymers end up in that product.

15 301. As some advocates have observed, “The mass balance allocation approach is
16 fundamentally an artificial credit scheme that allows plastics and products companies to claim
17 fictionally high recycled content levels in certain products through the sale of credits.”¹⁴⁸

18 302. A simple example helps explain the complex scheme. It would be entirely
19 deceptive to brand a bag of coffee as “100 percent decaffeinated” when only one percent of the
20 beans in the bag have been decaffeinated. The same logic applies to plastic packaging. It is
21 deceptive and misleading for companies to claim plastic packaging is made from “100 percent
22 circular” or “100 percent recycled plastic” when the physical content of the packaging is only
23 composed of one percent recycled plastics. Additionally, it would be equally deceptive for a
24 company to decaffeinate coffee at one facility and sell the rights to claim coffee produced at
25 another operation—which hasn’t decaffeinated its coffee—is decaffeinated.¹⁴⁹ This is essentially

26
27 ¹⁴⁸ Just Zero et al., *Modifications to the Safer Choice Standard and Potential*
Implementation of a Safer Choice Cleaning Service Certification Program (EPA-HQ-OPPT-
2023-0520) (Jan. 16, 2024) page 2.

28 ¹⁴⁹ *Ibid.*

1 what ExxonMobil does with its “certified circular polymers” under the ISCC PLUS mass balance
2 with free allocation scheme.

3 303. Figure H, below, demonstrates how the mass balance approach with free
4 allocation enables a company to falsely claim that plastic waste (recycled feedstock) that is made
5 into fuel can be counted by companies as polymer “recycled content” under the ISCC PLUS
6 guidelines.¹⁵⁰ In the hypothetical scenario shown in Figure H, below, 10 units of plastic waste
7 (recycled feedstock) and 90 units of virgin plastic (virgin feedstock) are put into the “advanced
8 recycling” system steam cracker.¹⁵¹ While the vast majority—9 out of 10 units—of the plastic
9 waste (recycled feedstock) actually become *non*-plastic products (5 units of the 10 units of
10 recycled feedstock become fuel and 4 units of the 10 units become other non-polymer products),
11 only 1 of the 10 units becomes a new plastic polymer. Nevertheless, the ISCC PLUS mass
12 balance with free allocation scheme allows the company, on paper, to “shift” the plastic waste
13 content of the fuel and non-polymer products over to the new plastic polymer product and claim
14 that it is made *entirely* from recycled plastic waste—even though only 1 of its 10 units (10
15 percent) actually came from plastic waste.

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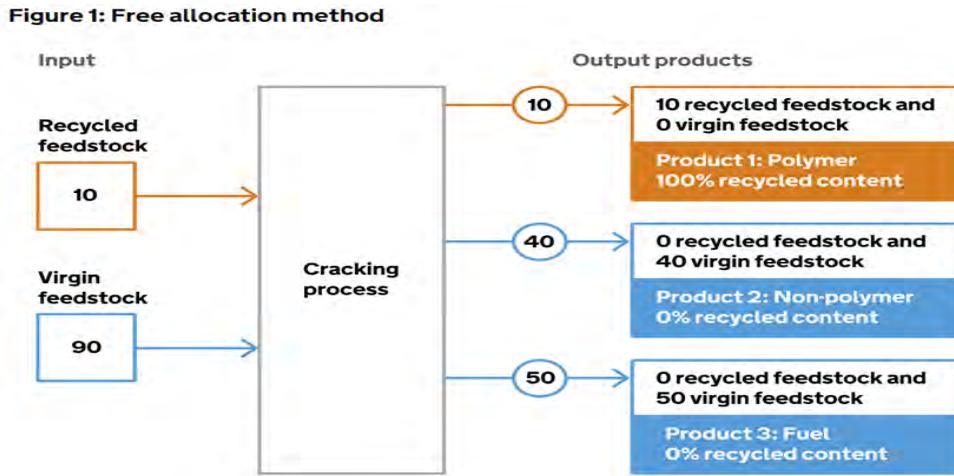
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¹⁵⁰ ISCC, ISCC System Documents <<https://www.iscc-system.org/certification/iscc-documents/iscc-system-documents/>> (as of July 29, 2024); ISCC, ISCC Plus (Mar. 6, 2024) <iscc-system.org/wp-content/uploads/2024/03/ISCC-PLUS_v3.4.2.pdf> (as of July 29, 2024).

¹⁵¹ As noted above, however, this hypothetical scenario of 10 percent recycled feedstock is actually not possible for ExxonMobil due to contamination; only a maximum of 2 percent of pyrolysis oil (recycled feedstock) can be fed to steam crackers.

1 **Figure H: Free Allocation/Attribution Mass Balance Method¹⁵²**

304. ISCC PLUS certification claims are not independently verified by any government or regulatory authority. Mass balance and free allocation have been widely criticized, including by some members of the plastics industry, precisely because it is deceptive to the public.¹⁵³ The U.S. Environmental Protection Agency recently rejected the use of mass balance in meeting its recycled content requirement for plastic products and packaging that seek to participate in the agency's Safer Choice labeling program, which allows manufacturers to affix a "Safer Choice" label on certain consumer products that meet the program's health and environmental criteria.¹⁵⁴

¹⁵² HM Revenue and Customs, *Plastic Packaging Tax – Chemical Recycling and Adoption of a Mass Balance Approach* (July 18, 2023) <<https://www.gov.uk/government/consultations/plastic-packaging-tax-chemical-recycling-and-adoption-of-a-mass-balance-approach/plastic-packaging-tax-chemical-recycling-and-adoption-of-a-mass-balance-approach#mass-balance-models/>> (as of July 29, 2024).

¹⁵³ U.S. Environmental Protection Agency, Draft National Strategy to Prevent Plastic Pollution, *supra*; Plastics News, *Chemical Recycling, Greenwashing Claims at Play in Mass Balance Discussions* (July 13, 2023); Morse, *Your 'Recycled' Grocery Bag Might Not Have Been Recycled* (Mar. 20, 2023) Undark <<https://undark.org/2023/03/20/your-recycled-grocery-bag-might-not-have-been-recycled/>> [verifying recycled content under mass balance relies on "tricky math"] (as of July 29, 2024); Beyond Plastics et al., Chemical Recycling: A Dangerous Deception (Oct. 2023) pages 42-44, 69-77; ECOS, *Determining Recycled Content With the 'Mass Balance Approach'* (Feb. 10, 2021); Last Beach Cleanup et al., *Guides for the Use of Environmental Marketing Claims – Green Guides Review, Matter No. P954501 (Docket FTC-2022-0077)* (Apr. 24, 2023) pages 47-54; Just Zero et al., *Modifications to the Safer Choice Standard and Potential Implementation of a Safer Choice Cleaning Service Certification Program (EPA-HQ-OPPT-2023-0520)*, *supra*.

¹⁵⁴ Lisa Song, *Biden EPA Rejects Plastics Industry's Fuzzy Math That Misleads Customers About Recycled Content*, ProPublica (Aug. 9, 2024), <https://www.propublica.org/article/epa-rejects-mass-balance-plastics-recycling-safer-choice>.

1 305. In a study conducted in March 2021, the Association of Plastic Recyclers
2 (APR) found that virtually no adults know what the term “mass balance” means.¹⁵⁵ In APR’s
3 April 24, 2023 comment letter to the Federal Trade Commission (FTC) regarding proposed
4 updates to the FTC’s Guides for the Use of Environmental Marketing Claims (“Green
5 Guides”)¹⁵⁶, APR explicitly stated that “There is particular concern about the use of free
6 allocation methods under mass balance that may overstate the amount of recycled content in a
7 given product.”¹⁵⁷ APR went on to state that:

8 [The FTC] should not permit recycled claims based on methods such as ‘mass
9 balance,’ credit trading or similar systems. Consumers purchase a product with
10 recycled content with the implied understanding there are recycled materials in that
11 actual product, and claims must conform to that understanding. Making recycled
12 content claims in on-pack labeling, based on mass balance calculations, is deceptive
13 to the consumer because there is little to no physical traceability to prove that there is
14 any physical recycled content in the actual product, which is what the consumer
15 believes to be true.¹⁵⁸

16 (Emphasis in original.)

17 306. Similarly, the National Institute of Standards and Technology (NIST) reported
18 that “[a] key characteristic of MB [mass balance] model is that the physical presence of the
19 desired characteristic in the product is low or unknown.”¹⁵⁹ NIST found that mass balance has
20 “many unsettled issues, ill-defined terms, and conflicting objectives with regards to the
21 application of MB [mass balance] certification to polymers.”¹⁶⁰

22 307. ExxonMobil justifies its use of mass balance as necessary because it is
23 purportedly “impossible” to track molecules that originate from plastic waste. This is false, and
24 ExxonMobil knows it. Internal documents show that ExxonMobil uses scientific analysis and
25 testing to track what happens to the plastic waste it co-processes and steam cracks, including the
26 specific proportion of the plastic waste that makes it out of the process as “recycled” plastic.

27 ¹⁵⁵ The Assn. of Plastic Recyclers, *Recycling Terms Survey* (Mar. 2021)
28 <<https://plasticsrecycling.org/images/library/Recycling-Terms-Survey2021.pdf>> (as of July 29, 2024).

29 ¹⁵⁶ The Green Guides are a set of guidelines to help marketers avoid making
30 environmental claims about products that can mislead consumers.

31 ¹⁵⁷ The Assn. of Plastic Recyclers, *Comments of the Association of Plastic Recyclers*
32 *Regarding Guides for the Use of Environmental Marketing Claims* (Apr. 24, 2023) page 32.

33 ¹⁵⁸ *Id.* at page 2 (emphasis in original).

34 ¹⁵⁹ Nat. Inst. of Stds. and Technology, U.S. Dept. of Commerce, *An Assessment of Mass*
35 *Balance Accounting Methods for Polymers Workshop Report* (Feb. 2022) page 7.

36 ¹⁶⁰ *Id.* at page v.

1 308. Under the false cloak of legitimacy of being “ISCC PLUS certified,”
2 ExxonMobil has knowingly deceived the public into believing that its “advanced recycling”
3 operations have significant environmental benefits, creating products that are “circular” and
4 “recycled.” ExxonMobil has a massive financial interest in ensuring that mass balance free
5 allocation methods are accepted broadly and even enshrined in law. Indeed, continuing the public
6 deception *is* ExxonMobil’s business model.

E. ExxonMobil Knows That Its “Advanced Recycling” Program Is Not Economically Viable.

9 309. Despite the technical limitations of “advanced recycling,” ExxonMobil
10 continues its campaign of deception about the economic viability and commercial scalability of
11 its “advanced recycling” operations. In its 2022 annual report, ExxonMobil boasts that, “We are
12 uniquely positioned with our scale, integration, and technology to expand advanced recycling
13 capacity to help broaden the range of plastics that society recycles.” In a social media post,
14 ExxonMobil claims that its “advanced recycling” technology is “commercial and scalable” and
15 that the corporation is attempting to “scale the technology around the world.”¹⁶¹ ExxonMobil
16 further states that it is creating “opportunities to capture value from plastic waste at scale.”¹⁶²
17 These representations about the economic viability of “advanced recycling” have been a part of
18 ExxonMobil’s strategy since even before its first “advanced recycling” facility at Baytown began
19 operation in December 2022: a 2020 internal ExxonMobil presentation advised executives to
20 “[p]romote advanced recycling as scalable, GHG-advantaged solution to help address plastic
21 waste.”

22 310. ExxonMobil also touts the commercial value of both plastic waste and its
23 recycled plastics. It characterizes discarded plastics as having “enormous benefits” and being “too

¹⁶¹ ExxonMobil Chemical, Twitter (Aug. 29, 2023) <https://twitter.com/XOM_Chemical/status/1696540786190401804> (as of July 31, 2024); see also *ExxonMobil, Advanced Recycling Technology Supports the Circular Economy for Plastic Around the World* https://www.exxonmobilchemical.com/en/exxonmobil-chemical/sustainability/advanced-recycling-technology/exxtend-goes-global?utm_source=twitter&utm_medium=social&utm_campaign=chemical_exxtend&utm_content=argoeshomepage_aug29 (as of July 29, 2024).

¹⁶² ExxonMobil, X (formerly Twitter) (Mar. 31, 2021) <<https://x.com/exxonmobil/status/1377352081976094720>> (as of July 31, 2024).

1 valuable to waste.” ExxonMobil emphasizes that it needs “more plastic to feed into our Baytown
2 facility,” that it wants the plastic waste “out of the landfill” and “into the blue bins so that it’s
3 sorted,” and it would “love to take it” into its facility. It further claims that recycled plastics are
4 “new valuable products needed for modern life.”¹⁶³

5 311. In reality, “advanced recycling” has never been economically viable for a host
6 of reasons. First, the process of collecting, sorting, transporting, and reprocessing plastic waste is
7 immensely expensive. Increases in diesel prices make the cost of trucking plastic waste even
8 greater. In fact, the uncertainty in feedstock costs has led ExxonMobil to be “very cautious” in its
9 capital expenditures for “advanced recycling” projects.

10 312. Second, in order to produce recycled plastics, “advanced recycling” requires
11 “very pure,” uniform, and high-quality feedstock. ExxonMobil itself has recognized that “[a]ccess
12 to quality feed” is “key” to the “scale up of Advanced Recycling,” and that “[r]oadblocks to
13 advanced recycling include the “[s]peed of supply chain development [and] plastic waste
14 quality.” The use of a very heterogeneous feedstock creates a challenging obstacle, as even “small
15 amounts of problematic substances … can lead to the failure of a whole process approach.”¹⁶⁴
16 However, homogenous feedstock is difficult and expensive to obtain on a commercial scale. In
17 fact, FCC Environmental Services, a waste management and recycling company, expressed
18 strong concerns with promoting competition between mechanical and chemical recycling
19 facilities for feedstock, and with diversion of plastics from mechanical recycling to “advanced
20 recycling.” In October 2023, FCC Environmental Services turned down ExxonMobil’s proposal
21 for FCC to clean and sort plastic film waste for feedstock because ExxonMobil’s feedstock
22 specifications for their “advanced recycling” process were stricter than those for mechanical
23 recycling, the proposed price did “not make economical sense” to FCC, and FCC thought there
24 was a “very uncertain return scenario” compared to the market for mechanical recycling.

25 313. Third, the production of higher quality virgin plastic is cheaper. New high

26 ¹⁶³ Allen et al., Center for Climate Integrity, *The Fraud of Plastic Recycling*, *supra*, at
27 page 4 (citing ExxonMobil Facebook post (Sept. 6, 2023) <<https://www.facebook.com/ads/library/?id=623208426597156>> [as of July 29, 2024]).

28 ¹⁶⁴ Quicker et al., *Chemical Recycling: A Critical Assessment of Potential Process Approaches*, (Mar. 15, 2022) 40 Waste Management and Research 10 pages 1501-1502.

1 quality virgin plastics use less costly virgin hydrocarbon feedstock, and require much less time,
2 labor, truck transport, processing, and equipment than that needed to produce lower quality
3 recycled plastic. One study found that resins recovered through plastic-to-plastic “advanced
4 recycling” are 1.6 times more expensive than virgin resins.¹⁶⁵ Petrochemical companies therefore
5 have financial incentives to continue making and selling low-cost virgin plastic. And that is what
6 these companies, including ExxonMobil, continue to do and to invest in.

7 314. Fourth, ExxonMobil and other petrochemical companies’ unceasing production
8 of hundreds of billions of dollars of cheap, virgin plastic resins every year—amounting to 460
9 million tonnes of cheap new plastic production annually in 2019¹⁶⁶—floods the market and makes
10 higher-cost recycled plastic uncompetitive.

11 315. The economic problems with recycling plastics are well-known and widespread
12 throughout the petrochemical industry, and are not significantly different for mechanical versus
13 “advanced” recycling. As one industry insider wrote 50 years ago, “[t]here is serious doubt that
14 [recycling plastic] can ever be made viable on an economic basis.”¹⁶⁷ Another explained that
15 “chemical recycling” “require[s] greater energy inputs than it save[s]” and is therefore an
16 “energy-loser.”¹⁶⁸ Larry Thomas, former president of the Society of the Plastics Industry,
17 observed that the petrochemical industry has no economic incentive to produce recycled plastics
18 when their business is producing “as much oil as you possibly can” and selling virgin material.¹⁶⁹

19 316. ExxonMobil has known for at least 30 years that “advanced recycling” could
20 never be economically feasible, and, therefore, would not be scaled up. In a 1994 meeting with

21
22 ¹⁶⁵ *Id.* (citing Yadav et al., *Techno-Economic Analysis and Life Cycle Assessment for*
23 *Catalytic Fast Pyrolysis of Mixed Plastic Waste* (June 5, 2023) 16 *Energy & Environmental*
24 *Science* 9.

25 ¹⁶⁶ OECD, *Global Plastics Outlook: Economic Drivers, Environmental Impacts and*
26 *Policy Options* (Feb. 22, 2022).

27 ¹⁶⁷ Sullivan, *How Big Oil Misled the Public Into Believing Plastic Would Be Recycled*,
28 *NPR* (Sept. 11, 2020) <<https://www.npr.org/2020/09/11/897692090/how-big-oil-misled-the-public-into-believing-plastic-would-be-recycled>> (as of July 29, 2024).

¹⁶⁸ Allen et al., Center for Climate Integrity, *The Fraud of Plastic Recycling*, *supra*, at
25-26 (citing Griff, *Is Recycling Good for the Environment?* 4 (2003)
<<https://griffex.com/wp-content/uploads/2020/09/Griff-gpec-and-tables.pdf?c772ab&c772ab>> (as
of July 29, 2024).

¹⁶⁹ Sullivan, *How Big Oil Misled the Public Into Believing Plastic Would Be Recycled*,
28 *supra*.

1 APC staffers, Exxon Chemical Vice President Irwin Levowitz called pyrolysis a “fundamentally
2 uneconomical process.”¹⁷⁰ This remains true today.

3 317. Indeed, the economic pitfalls of “advanced recycling” are reflected not only in
4 speeches, studies, and white papers, but also in the consistent failure of “advanced recycling”
5 facilities to demonstrate viability over the past decades. No chemical recycling project in the last
6 20 years has successfully recycled plastic at a commercial scale.¹⁷¹ This is not due to any lack of
7 public investment or corporate resources to invest in these projects, if they desire. In fact, since
8 2017, at least \$500 million in public funds have been spent on 51 U.S. “advanced recycling”
9 projects.¹⁷² And U.S. residents pay approximately \$4.2 to \$5.9 billion each year, mostly in local
10 taxes, for the collection of recycling materials from curbside bins.

11 318. These investments in “advanced recycling” ultimately did not move the needle
12 to establish “advanced recycling” as economically viable. Internal documents from 2020 show
13 that ExxonMobil’s target rate of return on co-processing of plastic waste in a coker would depend
14 largely on the price of plastic waste feedstock and would not be at all profitable above a certain
15 price point. But this price point for plastic waste feedstock was not realistic or possible: in 2021,
16 ExxonMobil was informed that “all-in delivered costs of post-consumer post-use plastics to
17 Baytown facility” would average a significantly higher price per pound even if ExxonMobil
18 invested in a sorting facility. Thus, ExxonMobil is struggling to find affordable, suitable plastic
19 waste feedstock in sufficient amounts to use as feed in its cokers.

20 319. The lack of profitability from “advanced recycling” plastic waste led
21 ExxonMobil to develop a business model based on the sales of circular credits at a premium over
22 the cost of virgin plastic. But 2021 internal documents show that “advanced recycling” projects
23 would not meet ExxonMobil’s profitability requirements unless a substantial “Circular Premium”
24 was charged on the “advanced recycling” product above the cost of virgin plastic produced. In

25 _____
26 ¹⁷⁰ Allen et al., Center for Climate Integrity, *The Fraud of Plastic Recycling*, *supra*, at
page 26 (citing Condrey, *ART Meeting-Houston*, at 27 (Jan. 26, 1994).

27 ¹⁷¹ Brock et al., *The Recycling Myth: Big Oil’s Solution for Plastic Waste Littered with*
Failure, A Reuters Special Report (July 29, 2021) <<https://www.reuters.com/investigates/special-report/environment-plastic-oil-recycling/>> (as of July 29, 2024).

28 ¹⁷² *Ibid.*

1 other words, customers would have to pay significantly more for the “advanced recycling”
2 product than for virgin plastic. One way to charge customers for the “Circular Premium” would
3 be to offer customers a “Circular Certificate” provided by ISCC.¹⁷³ But ExxonMobil’s internal
4 documents reflect that even if customers were willing to pay a substantial “Circular Premium” to
5 purchase a “Circular Certificate,” ExxonMobil still had to limit plastic feedstock costs to a
6 specific “break-even” price range to meet corporate profitability requirements. ExxonMobil is
7 paying multiples of that range for delivery of plastic feedstock.

8 320. Moreover, ExxonMobil has failed to meet its own internal schedules for starting
9 up and making final investment decisions for a number of potential “advanced recycling”
10 installations. ExxonMobil considers its Baytown facility as small scale, and has so far refrained
11 from “plac[ing] bets on” large or full-scale “advanced recycling” projects, despite ExxonMobil’s
12 claims that such projects are economically viable and scalable. In fact, in September 2022,
13 ExxonMobil discussed a delay, or “decompression” of its “advanced recycling” project schedule.
14 ExxonMobil’s Baytown project is operating at a loss of many millions of dollars per year.
15 Overall, ExxonMobil projected that its “advanced recycling” projects would operate at a nine-
16 figure net cash loss in 2023, and that its only path to future profitability was to secure steady,
17 low-cost plastic waste feed suitable for its flexicoker unit and to sell thousands of Circular
18 Certificates at a high premium over virgin plastic.

19 321. ExxonMobil well knows that “advanced recycling” will not be scaled up
20 without profitability, yet ExxonMobil continues to represent to the public that “advanced
21 recycling” is a realistic solution to the plastic waste and pollution crisis. In October 2023,
22 ExxonMobil asserted that growing demand for recycled plastic was driving investment, and that
23 the company’s “advanced recycling” operation was a “proven technology that is scalable.” A
24 month later, ExxonMobil boasted that it was “looking at potential new [advanced recycling]
25 facilities at other sites in the United States, as well as in Canada, Belgium, the Netherlands and
26 Singapore. All told, we expect to have the capacity to process a billion pounds [500,000 tonnes]

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¹⁷³ As discussed in Subsection D, above, these certificates are in and of themselves
deceptive.

1 per year around the world by the end of 2026.” ExxonMobil’s 2026 goal depends on the success
2 of its Baytown “advanced recycling” operations, which ExxonMobil advertises as having the
3 capacity to co-process 40,000 tonnes of plastic waste per year. However, ExxonMobil has
4 struggled to achieve this 40,000 tonnes per year capacity because of technical limitations of co-
5 processing plastic waste in cokers, and has deliberately limited the amount of plastic waste it
6 feeds its cokers to far less than its claimed 40,000 tonnes per year capacity. Consequently,
7 because ExxonMobil is co-processing less plastic waste, it is not producing the anticipated
8 amount of “Circular Certificates” to make its “advanced recycling” program profitable.

9 322. Thus, despite ExxonMobil’s public claims, the company has failed to: (1)
10 produce and sell the planned amount of “Circular Certificates”; and (2) obtain suitable
11 homogenous plastic feedstock within its “breakeven” price range, both of which are required to
12 achieve the profit level that the company requires.

13 323. In an attempt to address plastic feedstock cost, in February 2021, ExxonMobil
14 and a “chemical recycling” company, Agilyx Corporation (Agilyx), announced a joint venture
15 establishing Cyclyx International LLC (Cyclyx). Cyclyx was established to aggregate and pre-
16 process plastic waste for “advanced recycling” projects. ExxonMobil owns 25 percent of Cyclyx,
17 LyondellBassell owns 25 percent, and Agilyx owns 50 percent. As part of the joint venture,
18 Cyclyx would supply ExxonMobil with plastic waste feedstock. Cyclyx, which calls itself a “[f]or
19 profit corporation acting like a non-profit collaborative for the benefit of its members,” advertises
20 its “mission” as to “help increase the plastics recycling rate from 10 to 90% by getting the right
21 feed to the right technology.”¹⁷⁴ This goal, however, is not achievable in light of the technical and
22 economic limitations that have persisted for decades.

23 324. According to ExxonMobil, a Cyclyx Circularity Center would be built to
24 produce feedstock for both mechanical and “advanced” recycling, and would “leverage new
25 technologies to analyze plastics based on their composition and sort them according to customer

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¹⁷⁴ BIC Magazine, *Cyclyx, ExxonMobil and LyondellBasell Jointly Pursue Plastic*

27 *Processing Facility in Houston* (Oct. 19, 2022) <<https://www.bicmagazine.com/projects-expansions/renewable-sustainability-h2-esg/cyclyx-exxonmobil-and-lyondellbasell-jointly-pursue-plastic-/>> (as of July 29, 2024).

1 specifications for their highest and best reuse.” In an April 27, 2023 press release, ExxonMobil,
2 Cyclyx, and other partners announced their “intention to be the first in the United States to
3 successfully launch a circular food packing proof of concept leveraging advanced recycling.”
4 ExxonMobil touted a “successful demo” where “plastic waste was collected from grocery stores,
5 diverting it from landfills.” According to ExxonMobil, this “demo” showed that “creating a
6 circular economy is achievable with value chain collaboration” and that “the process is now being
7 evaluated for scale.”

8 325. ExxonMobil and its partners, which now include another petrochemical
9 company, LyondellBasell Industries, announced an expected start-up date for the Cyclyx
10 Circularity Center in 2024, with an investment of approximately \$100 million contingent on a
11 final investment decision in early 2023.

12 326. Internally, however, ExxonMobil questioned Cyclyx’s viability. It described
13 Cyclyx as “loss making” and asked, “what is the plan to make it break even.” These doubts are
14 compounded by Cyclyx’s 2021 report to ExxonMobil, stating that even if ExxonMobil invested
15 in a Cyclyx sorting facility, plastic waste feedstock would cost ExxonMobil an average amount
16 well above the “breakeven” cost. ExxonMobil did not make a final investment decision on
17 funding the Cyclyx Circularity Center until December 2023, after FCC Environmental Services
18 rejected ExxonMobil’s proposal.¹⁷⁵ According to ExxonMobil, the center will now have an
19 expected start-up date of mid-2025.

20 327. Despite ExxonMobil’s internal misgivings, Cyclyx’s own statements that
21 plastic waste feedstock is not consistently available, and the lengthy delay in funding the Cyclyx
22 Circularity Center, ExxonMobil misleadingly claims that the circularity center “will accept,
23 analyze and process a range of plastic, including difficult-to-recycle materials, such as food
24 packaging, chip bags and bottle caps.” However, ExxonMobil knows that it is not possible, either
25 technically or economically, to recycle these materials at a rate even remotely approaching 90
26 percent, as Cyclyx identifies as its mission. Additionally, an internal document shows that

27 ¹⁷⁵ Kazdin, *Cyclyx Announces Final Investment Decision for Circularity Center*,
28 Recycling Today (Dec. 7, 2023) <<https://www.recyclingtoday.com/news/cyclyx-final-investment-decision-circularity-center/>> (as of July 29, 2024).

1 ExxonMobil did not expect to meet its advertised goal of processing 500,000 tonnes, or one
2 billion pounds, of plastic waste by 2026. Instead, it planned to process only a fraction of its stated
3 goal by the end of 2026 and did not even expect to meet its 2026 goal by 2028. Yet
4 ExxonMobil’s website still advertises its abandoned goal to “ramp up” its “advanced recycling”
5 “processing capabilities to 500 kTa [0.5 million tonnes], or one billion pounds, of waste plastic by
6 year-end 2026.”

7 328. ExxonMobil also deceives the public about the economic viability of obtaining
8 feedstock for “advanced recycling” through its involvement in the Houston Recycling
9 Collaboration. In January 2022, the Houston Recycling Collaboration was formed by
10 ExxonMobil, the City of Houston, LyondellBasell, Cyclyx International, and FCC Environmental
11 Services through a memorandum of understanding. The claimed goal of the collaboration is to
12 “Collect **all** plastic—no matter the type—from water bottles and bubble wrap to dry cleaner bags
13 and takeout containers” and drop off the collected plastics at “recycling takeback locations to be
14 implemented across the city.” The plastics would be collected at facilities including the
15 Kingwood Neighborhood Recycling Center, which would then supposedly provide feedstock to
16 ExxonMobil’s Baytown “advanced recycling” plant. In public videos on platforms reachable by
17 Californians, ExxonMobil representatives said the Baytown “advanced recycling” facility needed
18 plastic feedstock and that Kingwood residents can drop their plastics off at the Kingwood
19 collection site, to be transported and recycled at the ExxonMobil Baytown facility. The local
20 television news segment that aired in Houston told residents that plastic waste collected at the
21 Kingwood collection site would be recycled at ExxonMobil’s Baytown facility.

22 329. However, in June through September 2023, an environmental group attached
23 tracking devices to 11 plastic items that they dropped into the collection bins at Kingwood
24 Neighborhood Recycling Center and the North Main Neighborhood Recycling Center. At their
25 final location, all 11 devices led to an open-air waste management site, where all 11 plastic items
26 had been tossed alongside a fence along with other plastic waste—not to Baytown or any other

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recycling facility.¹⁷⁶ In response to this report, ExxonMobil repeated its deceptive claim that “[a]dvanced recycling is a proven technology” that can help “address the challenge of plastic waste” and that ExxonMobil was working “to help increase the amount of plastics that enter the [‘advanced recycling’] supply chain.”¹⁷⁷

5 330. Again, ExxonMobil relies on the same public deception playbook: boasting
6 about the technical and economic viability of “advanced recycling,” announcing steps towards
7 establishing recycling ventures, then ultimately failing to recycle any substantial percentage of the
8 plastic waste generated by ExxonMobil itself, let alone the plastics industry. However, there is no
9 pathway through which “advanced recycling” can become technically or economically viable.

10 331. Instead, ExxonMobil tries to generate sufficient income through its “advanced
11 recycling” projects by selling false and deceptive recycling certifications, as described above.

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¹⁷⁶ Bruggers, *Dumped, Not Recycled? Electronic Tracking Raises Questions About Houston's Drive to Repurpose a Full Range of Plastics*, Inside Climate News (Nov. 1, 2023) <<https://insideclimatenews.org/news/01112023/electronic-tracking-questions-houstons-drive-to-repurpose-plastics/>> (as of July 29, 2024).¹⁷⁷

28 || repurpose-plast 177 *Ibid.*

F. ExxonMobil Targets Its Deceptive “Advanced Recycling” Messages to California Consumers, Businesses, and Law and Policy Makers.

332. ExxonMobil spreads its deceptive “advanced recycling” messages broadly and aggressively on multiple social media platforms, including but not limited to LinkedIn, Twitter, Facebook, Instagram, and YouTube. On Twitter (now called “X”), ExxonMobil made false claims about its technical ability to process post-consumer plastics, despite internally understanding that post-consumer plastics are too contaminated to co-process in significant volumes. For example, on November 24, 2021, ExxonMobil tweeted¹⁷⁸:

A young child with short brown hair, wearing a green long-sleeved shirt, is sitting at a wooden table and eating yogurt from a white plastic container with a spoon. The child is looking down at the yogurt. In the background, there is a blurred view of a room with a chair and a window. The image is used to demonstrate that plastic containers can be part of a sustainable lifestyle.

We agree that deploying advanced recycling solutions will expand the range of materials that can be recycled while contributing to lower waste for society overall. exxonmobil.co/3ER6Ak2

11:54 AM · Nov 24, 2021

¹⁷⁸ ExxonMobil, X (formerly Twitter) (Nov. 24, 2021) <https://x.com/exxonmobil/status/146359681852112590?s=20/> (as of July 29, 2024).

1 333. On November 15, 2022, ExxonMobil tweeted¹⁷⁹:

2 **ExxonMobil** ✅ @exxonmobil · Nov 15, 2022 ...
3 What are some examples of hard-to-recycle plastics?
4 Where traditional recycling covers some products, advanced recycling
could help fill the gaps. See how exxonmobil.co/3AiRwvW

5 **Food packaging** 39.5%
6 **Cosmetics** 24.6%
7 **Chip bags** 36%
8 114 votes · Final results
9 9 4 17  
10 **ExxonMobil** ✅ @exxonmobil ...
11 All of the above pose a challenge for mechanical [#recycling](#). But
12 advanced recycling could change that. Follow along the process [⬇](#)

13  corporate.exxonmobil.com
14 Advanced recycling: A different way to handle used plastic...
15 Only 9% of plastics are recycled globally, according to the
Organization for Economic Co-operation and Developmen...

16 12:59 PM · Nov 15, 2022

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¹⁷⁹ ExxonMobil, X (formerly Twitter) (Nov. 15, 2022)
<<https://x.com/exxonmobil/status/1592606620231421952?s=20/>> (as of July 29, 2024).

1 334. On March 1, 2023, ExxonMobil tweeted¹⁸⁰:

2 ExxonMobil ✅ @exxonmobil · Mar 1 ...

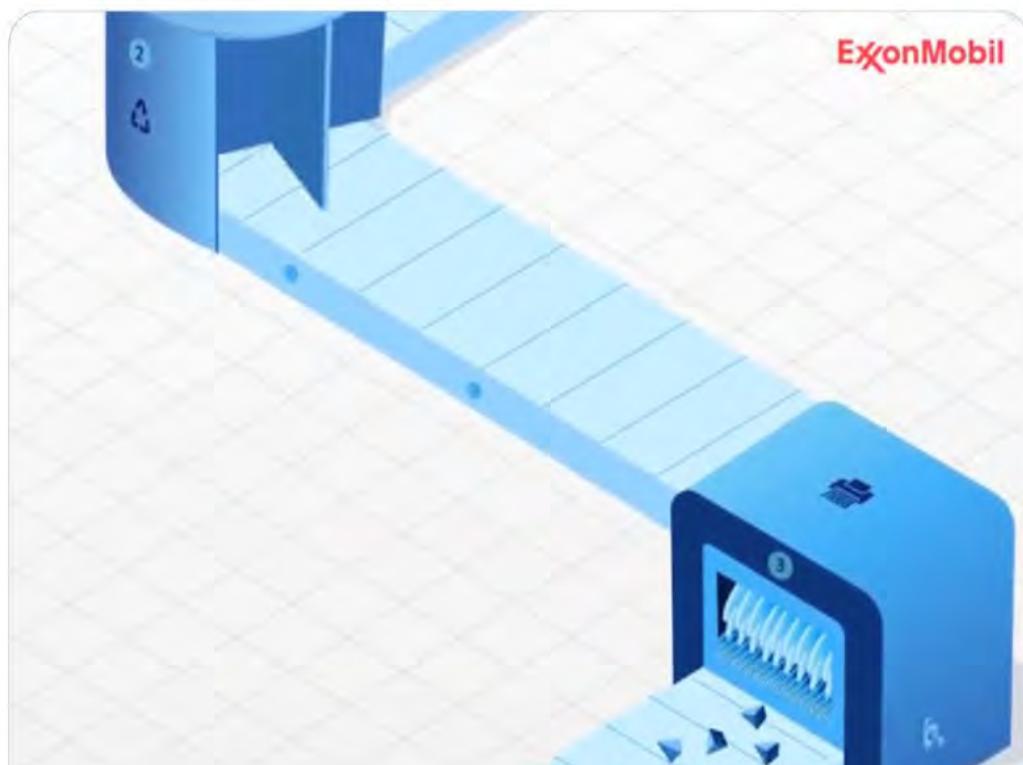
3 What are some examples of hard-to-recycle plastics?

4 Food packaging

5 Cosmetics

6 Products made from a combination of materials like chip bags.

6 Where traditional **recycling** covers some products, **advanced recycling**
7 could help fill the gaps. See how 
exxonmobil.co/41CvLDq



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¹⁸⁰ ExxonMobil, X (formerly Twitter) (Mar. 1, 2023) <<https://twitter.com/exxonmobil/status/1630964258535030789/>> (as of July 29, 2024).

1 335. On August 28, 2023, ExxonMobil Baytown Area tweeted¹⁸¹:

2
3 **ExxonMobil Baytown Area** ...
4 @ExxonMobilBTA
5
6 It used to be that only SOME plastics could be recycled. Now, thanks to
7 our revolutionary advanced recycling technology, we can give any plastic
8 a new life. A chip bag into a Ferrari? A water bottle into a computer? Is it
9 Science Fiction? It's happening now at ExxonMobil Baytown.



10 21 336. Similarly, though not pictured:

11 22 • On March 7, 2022, ExxonMobil tweeted false claims about its “advanced
12 23 recycling” program’s ability to “recycle” a plastic product “over multiple recycling
14 24 loops,” despite knowing the fact that most, if not all, of the plastic is destroyed or
15 25 turned into fuel and other non-circular products in the process.¹⁸²

16 26 ¹⁸¹ExxonMobil Baytown Area, X (formerly Twitter) (Aug. 28, 2023)
17 27 <<https://x.com/exxonmobilbta/status/1696261899652931725?s=46&t=OBruA2TmyQn2AZvSTYmlOQ>> (as of July 29, 2024).

18 28 ¹⁸² ExxonMobil Chemical, X (formerly Twitter) (Mar. 7, 2022)
<https://twitter.com/XOM_Chemical/status/1500876771310379013/> (as of July 29, 2024).

- On August 29, 2023, ExxonMobil Chemical tweeted misleading claims that “advanced recycling” is “commercial and scalable,” and that “it is pursuing ambitions to scale this technology around the world.”¹⁸³
- On October 5, 2022, ExxonMobil pushed claims that its “advanced recycling” technology—i.e., co-processing plastic waste in cokers—was a new technology, despite Mobil having patented the technology in the 1970s.¹⁸⁴

337. On YouTube, ExxonMobil posts numerous deceptive videos expounding the environmental virtues of “advanced recycling.” For example, one video dated May 2, 2023, clearly implies that all the plastic waste being brought to the Baytown facility comes out as new plastic.¹⁸⁵ The video also deceptively claims that the “advanced recycling” process decreases the amount of GHG emissions by 19 to 49 percent compared to virgin plastic.¹⁸⁶

338. ExxonMobil sponsored another YouTube video dated May 1, 2023, featuring its partnership with Cyclyx, Sealed Air, and Ahold Delhaize USA, which makes clear that consumers consider the reusability and recyclability of packaging when making purchases.¹⁸⁷ It then leads consumers to believe that the plastic waste being “recycled” is going directly into the containers they buy at grocery stores.¹⁸⁸ In another video dated February 16, 2024, titled “Recycling is Real,” with partners Cyclyx and TenCate, an ExxonMobil representative states, “Advanced recycling is key to taking recycling rates to the next level.”¹⁸⁹

339. ExxonMobil targets Californians with deceptive digital advertisements regarding “advanced recycling.” For example, ExxonMobil has paid for Facebook advertisements to Californians falsely claiming that, for “advanced recycling,” “every ton of

¹⁸³ ExxonMobil, X (formerly Twitter) (Aug. 29, 2023) https://twitter.com/XOM_Chemical/status/1696540786190401804 (as of July 29, 2024).

¹⁸⁴ ExxonMobil, X (formerly Twitter) (Oct. 5, 2022) <https://twitter.com/exxonmobil/status/1577705288643256321> (as of July 29, 2024).

¹⁸⁵ ExxonMobil Chemical, *ExxonMobil's ExxTend Technology for Advanced Recycling Virtual Tour* (May 2, 2023) YouTube https://www.youtube.com/watch?v=pFaJr_4zi3Y (as of July 29, 2024).

¹⁸⁶ *Ibid*; see paragraph 273-79, above.

¹⁸⁷ ExxonMobil Chemical, *News Release: Cyclyx, Sealed Air, and Ahold Delhaize USA Demo Advanced Recycling for Plastic Waste*, *supra*.

¹⁸⁸ *Ibid*.

¹⁸⁹ Plastics Industry Assn., *Recycling Is Real: ExxonMobil, Cyclyx, TenCate* (Feb. 16, 2024) YouTube <https://www.youtube.com/watch?v=W7H6OkpO3Z4> (as of July 29, 2024).

1 plastic waste we process, society reduces the need to process approximately one ton of fossil fuel
2 derived feedstocks.”¹⁹⁰

3 340. Internal ExxonMobil documents show that it targets specific media markets
4 including California to push deceptive “advanced recycling” messages as a way to “increase
5 education on what advanced recycling is and how [ExxonMobil] is leading the way.”

6 341. ExxonMobil targets California businesses and businesses that otherwise do
7 business in California with its deceptive “advanced recycling” messaging at trade shows and
8 other events.¹⁹¹

9 342. ExxonMobil directs its “advanced recycling” messages to California to
10 influence legislation in order to further its deceptive marketing. For example, ExxonMobil paid
11 millions to the American Chemistry Council to fight a restrictive ballot measure that would have
12 established an extended producer responsibility program for plastic products in California.

13 **G. ExxonMobil Directs and Colludes with Trade Groups to Amplify Its
14 Deceptive “Advanced Recycling” Messages.**

15 343. As stated above, ExxonMobil is a member of the American Chemistry Council
16 (ACC), the foremost trade group for the plastics industry. According to ExxonMobil’s public
17 lobbying reports, ExxonMobil spent tens of millions of dollars on various trade groups and
18 grassroots lobbying. ExxonMobil used these trade groups to advance its deceptive messaging
19 around “advanced recycling,” in an effort to mislead the public. Internal documents reveal that a
20 critical component of ExxonMobil’s “advanced recycling” program is to amplify its deceptive
21 messaging through trade groups. Additional internal documents show close coordination with key
22 trade groups such as the American Chemistry Council to spread deceptive “advanced recycling”
23 messages.

24
25 ¹⁹⁰ See Facebook Digital Ad Library, search “ExxonMobil,” Library ID
811271790836528 (as of May 29, 2024).

26 ¹⁹¹ See, e.g., Spielman, *MD&M West 2024: Record-Setting Rainfall Didn’t Keep
27 Attendees Away from the Monday MiniTec Track*, Machine Design (Feb. 6, 2024) [ExxonMobil
28 gave presentation at California medical device conference on the benefits of “advanced
recycling”]; Printpack, *ExxonMobil, Pacific Coast Producers Bring Circularity to Fruit Cups, supra* [ExxonMobil makes deal for “certified circular polymers” with California-based Pacific
Coast Producers].

1 344. Trade groups have widely spread deceptive “advanced recycling” messages.
2 One of these groups is called America’s Plastic Makers. America’s Plastic Makers is a campaign
3 of the ACC’s Plastics Division, which is made up of ExxonMobil and other businesses in the
4 plastics industry. America’s Plastic Makers is behind a concerted effort promoting “advanced
5 recycling” as a “new” solution to the plastic waste and pollution crisis.

6 345. The ACC’s digital advertising on “advanced recycling” continues to
7 accelerate. The ACC spent \$97,000 in 2021, \$265,000 in 2022, and \$526,000 in the first few
8 months of 2023 on Facebook and Instagram ads that falsely promoted “advanced recycling” as
9 part of a “circular economy” for plastics. The ACC often advertises by paying for the
10 advertisements that Americas Plastic Makers runs on online platforms such as Facebook.

11 346. And Californians are often among the targets for these ads.¹⁹² For example,
12 America’s Plastic Makers ran an ad campaign “Paid for by The American Chemistry Council”
13 from February 21-22, 2023 with 50,000 to 60,000 thousand impressions, 16 percent of which
14 were in California. The ad proclaims that “ExxonMobil is turning used plastic into new plastic at
15 its facility in Texas. Follow a chip bag as it goes through one of the largest Advanced Recycling
16 facilities in North America: <https://www.youtube.com/watch?v=QTh5ST38fIY>.¹⁹³ That linked
17 YouTube video misrepresents that “advanced recycling” converts plastic waste molecules to
18 become “new plastics,” attempting to deceive Californians into believing that an old chip bag will
19 become new plastic.¹⁹⁴

20 347. ExxonMobil is a key funder of America’s Plastic Makers, just as it was a key
21 funder of the deceptive Council for Solid Waste Solutions in the 1980s and 1990s. Internal
22 documents show that from 2020 to 2023, ExxonMobil gave the ACC \$19.4 million to run the
23

24 ¹⁹² See Facebook Digital Ad Library Report, Spending Tracker (search for “America’s
25 Plastic Makers”) <<https://www.facebook.com/ads/library/report/?source=nav-header>> (as of May
26 29, 2024, America’s Plastic Makers had spent \$76,592 on advertisements in California in the past
90 days (Feb. 27, 2024 to May 26, 2024)).

27 ¹⁹³ See Facebook Digital Ad Library, Library ID 488499916638064
28 <https://www.facebook.com/ads/library/?active_status=all&ad_type=all&country=US&view_all_page_id=106244251043808&search_type=page&media_type=all> (as of July 29, 2024).

28 ¹⁹⁴ KPRC 2, *Efforts of Advanced Recycling*, *supra*.

“American Plastic Makers campaign [and] national policy advocacy.”¹⁹⁵ Since 2023, America’s Plastic Makers spent \$30 million on an ad campaign promoting deceptions about “advanced recycling.”¹⁹⁶

4 348. One particular ad has been far-reaching and has been broadcast on major
5 television networks and on YouTube, including in California. There are at least two versions of
6 this ad, one that is 30 seconds long, and the other 15 seconds long. The 30-second ad states,
7 “Imagine a future where plastic is not wasted but instead remade over and over into the things
8 that keep our food fresher, our families safer, and our planet cleaner. To help us get there,
9 America’s Plastic Makers are investing billions of dollars to create innovative products and new
10 recycling technologies for sustainable change. Because when you push for smarter solutions, big
11 things can happen.”¹⁹⁷ As of July 25, 2024, the 30-second ad has been viewed 8.6 million times
12 on YouTube.

13 349. The 15-second ad similarly states, “For a cleaner, more sustainable future,
14 America’s Plastic Makers are investing billions of dollars to create innovative products and new
15 recycling technologies. Because when you push for smarter solutions, big things can happen.” As
16 of July 25, 2024, the 15-second ad has been viewed almost 35 million times on YouTube.

17 350. Contrary to the ad’s misleading claims, plastic cannot be “remade over and
18 over,” especially not through ExxonMobil’s “advanced recycling” technology. As noted above,
19 ExxonMobil’s “advanced recycling” technology is not “new” and destroys most of the plastic
20 waste it co-processes. Like the ad campaign by the Council for Solid Waste Solution that placed
21 deceptive ads in newspapers and magazines in the 1980s, this modern-day ad campaign by
22 America’s Plastic Makers, with ExxonMobil at the helm, deceptively seeks to convince
23 consumers that recycling, especially “advanced recycling,” will save the day in order to continue

¹⁹⁵ ExxonMobil also gave the American Chemistry Council an additional \$4 million in 2022 for the following “deliverable”: “Targeted campaign for CA ballot initiative.” This was likely referring to the 2022 grassroots ballot initiative in California that sought to create a plastics extended producer responsibility program in the state.

¹⁹⁶ Samuelson, *The Plastic Industry's \$30 Million Lie*, HEATED (July 25, 2024) <https://heated.world/p/the-plastic-industrys-30-million?utm_campaign=email-half-post&r=27dq5&utm_source=substack&utm_medium=email> (as of July 29, 2024).

¹⁹⁷ America's Plastic Makers, *Dominoes* (30s) (Feb. 22, 2024) YouTube <<https://www.youtube.com/watch?v=rewRKYIRew4&t=30s>> (as of July 29, 2024).

1 saturating the public and the planet with single-use plastic.

2 **IV. EXXONMOBIL'S DECEPTIONS ABOUT PLASTIC RECYCLING CAUSED AND ARE
3 CAUSING FORESEEABLE HARM TO CALIFORNIA'S NATURAL RESOURCES,
4 ECONOMY, AND RECREATION, AND ARE RESULTING IN ENVIRONMENTAL
INJUSTICE.**

5 351. ExxonMobil, independently and through its agents, servants, alter-egos and
6 industry groups, has misled consumers, policymakers, and regulators about the viability of plastic
7 recycling as a solution for plastic waste for more than 50 years. Since the early 1970s, as alleged
8 above, ExxonMobil has publicly promoted the lie that recycling would be the solution to the
9 plastic waste problem created by its products, while knowing that it would not. At the same time,
10 ExxonMobil has expanded its plastic production, which has foreseeably led to a plastic waste and
11 pollution crisis across California.

12 352. ExxonMobil marketed plastics and recycling in a manner that directly and
13 foreseeably impacted and continues to impact California, with knowledge that the intended use of
14 its products harmed and will continue to harm California and elsewhere. ExxonMobil
15 purposefully directed its misleading conduct to reach the State, its businesses, and its residents, to
16 promote the continued and unabated use of plastics products, including ExxonMobil's plastics
17 products, in California and elsewhere. These deceptions have resulted in significant injuries in the
18 State while increasing sales to ExxonMobil.

19 353. Over the years, ExxonMobil expanded its U.S. plastic production to 7.7 million
20 tonnes per year in 2023. Plastic waste has also grown, for instance, from 8.9 percent of all
21 managed trash in California in 1999 to almost 14 percent of all managed trash in California in
22 2021. Yet, throughout the half century during which ExxonMobil promised that recycling would
23 provide the solution to the increasing amount of plastic waste generated by its ever increasing
24 plastic production, the rate of plastic recycling in the United States has never exceeded nine
25 percent (and only reached nine percent due to millions of pounds of plastic waste exported each
26 year under the guise of recycling), and currently hovers at around five percent.¹⁹⁸

27

¹⁹⁸ Nat. Renewable Energy Laboratory, *NREL Calculates Lost Value of Landfilled Plastic*
28 *in U.S.,* *supra*; see also Beyond Plastics, *The Real Truth About the U.S. Plastics Recycling Rate,*
supra, at page 2.

1 354. Meanwhile, the public became alarmed by the increasing amount of plastic
 2 trash that had begun choking California rivers and shores. In response to Californians'
 3 desperation to do something about plastic waste destroying the environment, California Coastal
 4 Cleanup Day was born. Volunteers concerned with the devastating effects of plastic pollution on
 5 California beaches, waterways, and wildlife have collected and categorized over 65 items of
 6 mostly single-use plastic waste on a single day annually from 1988 to present.

7 355. Since 1985, more than 1.7 million volunteers have removed over 26 million
 8 pounds of trash from beaches and inland waterways across California. ExxonMobil's polymer
 9 products are used to make the plastic items within the top 10 items collected on California
 10 Coastal Cleanup Day. These single-use plastic items found on California beaches are made, in
 11 part, from polymers and plastics produced by ExxonMobil and manufactured by ExxonMobil's
 12 customer brands. (See Figure C above).

13 **Figure I: Surfrider Foundation Report of Top Beach Cleanup Items in 2023**

14 Surfrider's 2023 Assessment of 685 Beach Cleanups in the United States



22 356. Studies dating from at least 10 years ago show that plastic accounts for
 23 approximately 90 percent of all floating marine debris.

24 357. ExxonMobil externalized the cost of addressing plastic waste and pollution onto
 25 the State, its People, and its ecosystems by expanding its plastic production without regard for the
 26 end-life of its product, including the impact of plastic waste and the inability of plastic recycling
 27 to meaningfully address the massive amount of plastic waste produced. ExxonMobil's
 28 contribution to the plastic waste and pollution crisis through its deceptive messages caused and

1 continues to cause the State substantial harm. The plastic ExxonMobil produces foreseeably
2 becomes plastic waste and pollution that impairs California's public trust resources, including its
3 tidelands, beaches, oceans, and all of the wildlife dependent upon these and other waterbodies and
4 impedes the public's enjoyment of and ability to recreate in these natural environments.

5 358. In addition to these harms, plastic pollution also results in concrete economic
6 costs borne by public entities and taxpayers in California.

7 359. As explained above, there is a direct relationship between the rise in plastic
8 production and the rise in plastic pollution in that "a 1% increase in production, result[s] in
9 approximately a 1% increase in branded plastic pollution."¹⁹⁹

10 **A. ExxonMobil Substantially Caused and Is Causing Plastic Waste and
11 Pollution That Harms California's Natural and Public Trust Resources.**

12 360. Plastic pollution is pervasive in California. It is found throughout the state,
13 including in the state's rivers, lakes, bays, and ocean waters. Plastic is even found in protected
14 coastal areas, such as the Monterey Bay National Marine Sanctuary and the Bodega Bay State
15 Marine Reserve. California has 105 water bodies that contain so much debris and plastic that they
16 are either already listed as having "impaired" water quality under the Clean Water Act or have
17 been recommended for such a listing in the State Water Resources Control Board's 2024
18 Integrated Report (pending approval by U.S. EPA), which identifies impaired water bodies.
19 Plastic pollution in the state's public trust lands impairs public trust resources and injures the
20 public's right and ability to freely use them.

21 361. California's coastal public trust lands support a variety of ecological,
22 socioeconomic, and cultural functions. Coastal wetlands and beaches support biodiversity and
23 perform a variety of important ecosystem services, like buffering wave energy, filtering water,
24 recycling nutrients, and serving as nursery habitat for fish species that are part of larger coastal
25 ecosystems. All of these essential biological functions have been harmed by plastic waste and
26 pollution that ExxonMobil has substantially caused, resulting in harm to the State's ecosystems

27
28 ¹⁹⁹ Cowger et al., *Global responsibility for plastic pollution*, 10 Science Advances 7 (Apr.
24, 2024).

1 and wildlife. Extensive research shows that exposure to plastic pollution has had substantial
2 negative impacts on a wide range of freshwater, marine, and terrestrial species.

3 362. Plastic food packaging has been found in dead seabird stomachs in San Diego
4 and Monterey since the 1970s. As plastic production has ramped up, California's wildlife
5 increasingly suffers from plastic ingestion and entanglement.²⁰⁰ Wildlife frequently mistakes
6 plastic for food or inadvertently swallows plastic while feeding or swimming.²⁰¹ Ingesting plastic
7 can obstruct digestion and lacerate intestines, which interferes with an animal's ability to feed and
8 obtain nourishment.²⁰² Wildlife also become entangled in plastic, causing animals to drown,
9 choke, or suffer physical trauma, such as amputation and infection, which interferes with feeding
10 and foraging, leading to malnutrition and unnecessary death.²⁰³

11 363. The National Oceanic and Atmospheric Administration (NOAA) and the
12 National Marine Fisheries Service (NMFS) reported that, in the last two decades, a total of 1,114
13 marine mammals in California were entangled in plastic or plastic was found in the animal's
14 stomach.²⁰⁴ Some examples of marine life entanglement in California include a report that a long-
15 beaked common dolphin was found with a food wrapper lodged in its esophagus, a northern
16 elephant seal nursing its pup was found with a packing strap around its neck, and a leatherback
17 sea turtle was found with plastic sheeting stuck in its gastrointestinal track. A separate study of
18 stranded marine mammals on the central California coast between 2003 and 2015 showed marine
19 debris entanglement was the main trauma category affecting pinnipeds, including California sea

20 _____
21 ²⁰⁰ Donnelly-Greenan et al., Moss Landing Marine Laboratories, Entangled
22 Seabird and Marine Mammal Reports from Citizen Science Surveys from Coastal
23 California (1997–2017), 149 Marine Pollution Bulletin (Aug. 28, 2019) (study in central CA from
1997-2017 finding seabirds entangled in CA primarily from fishing lines; mostly in Monterey
24 Bay NMS).

25 ²⁰¹ Warner et al., Oceana, Choked, Strangled, Drowned: The Plastics Crisis Unfolding in
26 Our Oceans (Nov. 2020).

27 ²⁰² *Ibid.*

28 ²⁰³ *Ibid.*

29 ²⁰⁴ Fong, *California: Marine Mammals Tangled and Intoxicated by Plastic*, Internat.
30 Marine Mammal Project (Aug. 20, 2020) <<https://savedolphins.eii.org/news/california-marine-mammals-tangled-and-intoxicated-by-plastic#:~:text=In%20the%20last%20two%20decades,was%20found%20in%20its%20stomach>>
(as of July 29, 2024).

1 lions, elephant seals, and Guadalupe fur seals.²⁰⁵

2 364. California's wildlife is being directly harmed by ExxonMobil's plastic marine
3 debris. Between 2008 and 2012, NOAA reports that marine debris off the coast of California
4 seriously injured or killed 65 Californian sea lions, seven northern elephant seals, three sperm
5 whales, two California harbor seals, and one long-beaked common dolphin.²⁰⁶ In 2016, the
6 Secretariat of the Convention on Biodiversity reported that marine debris entanglements had been
7 documented for 519 species of animals, including 46 percent of all species of marine
8 mammals.²⁰⁷ Numerous studies show that plastic accounts for approximately 90 percent of all
9 floating marine debris. ExxonMobil's plastic is killing California's marine life.

10 365. Marine debris also plagues birds in California. A study of six California
11 counties showed seabirds accounted for 97 percent of all debris entanglement deaths from 1997 to
12 2017. The most affected species were the common murre, accounting for 23 percent of deaths,
13 Brandt's Cormorant, accounting for 13 percent, followed by the Western Gull (9.6 percent),
14 Sooty Shearwater (8 percent), and Brown Pelican (7 percent).

15 366. Marine debris also poses harms to California birds through ingestion. Birds that
16 call California home, such as California condors, red-tailed hawks, red-shouldered hawks, great
17 horned owls, and barn owls are known to ingest plastic pollution, some species mistaking it for
18 food.²⁰⁸ A study of California condor mortality, from 1992 through 2009, revealed that trash
19 ingestion was the leading cause of death in nestlings, accounting for 73 percent of nestling deaths.
20 Plastic pollution is so prevalent in bird stomachs, researchers have coined the term "plasticosis"
21 to describe stomach damage related to ingesting plastic trash. As a consequence of plastic
22 ingestion, a variety of bird species can suffer from nutritional deprivation, damage or obstruction

23 ²⁰⁵ Barcenas-De La Ceuz et al., *Evidence of Anthropogenic Trauma in Marine Mammals*
24 *Stranded Along the Central California coast, 2003-2015*, 34 *Marine Mammal Science* 2 (Oct. 23,
2017).

25 ²⁰⁶ Carretta et al., Nat. Oceanic and Atmospheric Admin., U.S. Pacific Marine Mammal
Stock Assessments: 2018 (June 2019).

26 ²⁰⁷ Secretariat of the Convention on Biological Diversity, *Marine Debris: Understanding,
Preventing and Mitigating the Significant Adverse Impacts on Marine and Coastal Biodiversity*
(Technical Series No. 83) (2016) page 18.

27 ²⁰⁸ Leviner, et al., *Documentation of Microplastics in the Gastrointestinal Tracts of
Terrestrial Raptors in Central California, USA*, 109 *California Fish and Wildlife Scientific
Journal* 6 (July 10, 2023).

1 of the gut, and inflammatory responses, leading to reduced food intake, delayed ovulation, and
 2 increased mortality. A 2015 study revealed that ingestion or entanglement records for marine bird
 3 species had increased from 44 percent to 56 percent since the 1990s, as had the proportions of
 4 marine mammal, sea turtle, and marine fish species.²⁰⁹ The increases in wildlife entanglement and
 5 ingestion of plastic coincides with the increase in ExxonMobil's production of plastic since the
 6 1990s.

7 367. As plastic continues to degrade in the environment, it breaks down into smaller
 8 and smaller fragments, eventually becoming what is commonly referred to as "microplastics."
 9 Microplastics contaminate every level of the food web in California, and both plastic fragments
 10 and the chemicals they carry can bioaccumulate in the food web at multiple trophic levels. A
 11 recent study found that surface water "levels of microparticles in the [San Francisco] Bay were
 12 some of the highest observed globally," and that "microplastic contamination, a global concern,
 13 may be higher in San Francisco Bay than in other urban areas in North America."²¹⁰ And a 2019
 14 study found that "between 4.7 and 7.2 trillion microplastics enter San Francisco Bay via [] small
 15 tributaries annually."²¹¹

16 **Figure J: Microplastics in San Francisco Bay Compared to Other Major U.S. Water Bodies**



25 ²⁰⁹ Good et al., *Plastics in the Pacific: Assessing Risk from Ocean Debris for Marine
 26 Birds in the California Current Large Marine Ecosystem*, 250 Biological Conservation 108743
 (Oct. 2020).

27 ²¹⁰ S.F. Estuary Institute and The 5 Gyres Inst., Executive Summary, San Francisco Bay
 Microplastics Project (2019).

28 ²¹¹ Sutton et al. Understanding Microplastic Levels, Pathways, and Transport in the San
 Francisco Bay Region. San Francisco Estuary Institute page 49.

1 368. Exposure to plastic pollution and microplastics negatively impacts California's
2 aquatic plants and wildlife. Studies show that microplastic exposure reduces root growth in
3 aquatic plants native to California, decreases energy reserves in bivalves (mollusks), decreases
4 juvenile growth rates in snails native to California, and can cause injury and inflammatory
5 responses in zooplankton. Other studies show that mussel species had strong inflammatory
6 responses when exposed to microplastic. Research suggests that the allocation of energy to
7 immune responses may have detrimental effects to an organism's health over time. Two studies
8 on Pacific oysters, also found in California, found that microplastic exposure and ingestion
9 affected their physiology, behavior, and negatively affected oyster reproduction. Further, a study
10 of San Francisco Bay found that microplastics pose a statistically significant risk to the health of
11 aquatic ecosystems.²¹²

12 369. ExxonMobil has produced highly-refined white oils for polystyrene production
13 for over a century and is a major producer of styrene copolymers. A study of polystyrene plastic
14 found that plastic particles adhere to primary producers (phytoplankton and algae, which form the
15 basis of the marine food chain) and that plastic is then found in the digestive organs of higher
16 trophic species (i.e., in species that eat primary producers). A study of the remote Bodega Marine
17 Reserve on California's coast found that the organisms sampled had "remarkably higher
18 concentrations of microplastic particles than the environmental samples" (i.e., seawater), and that
19 microplastic density increased with trophic level (position up the food chain). Similarly, a study
20 of Monterey Bay, California, revealed that 58 percent of anchovy fish studied contained
21 microplastics, while 100 percent of common murres studied, a predator of anchovy, contained
22 microplastics.

23 370. Other studies document that California's wildlife is ingesting microplastics. It
24 was recently discovered that endangered blue whales, humpback whales, and fin whales off
25 California's coast ingest far more plastic than previously understood. A blue whale may ingest 10
26

27

²¹² Coffin et al., *Risk Characterization of Microplastics in San Francisco Bay, California*,
28 2 Microplastics and Nanoplastics 19 (July 7, 2022).

1 million pieces of microplastic in a single day.²¹³ illustrating the massive presence of plastic in the
2 environment.

3 371. In an extensive review of scientific literature, a 2021 study by Dr. Matthew S.
4 Savoca et al. at the Hopkins Marine Station of Stanford University found that 386 marine fish
5 species are known to have ingested plastic debris, including 210 commercially important species.
6 The research reveals that the consumption of plastic by fish is widespread and increasing, and that
7 the 210 commercial species that were found to have ingested plastic is likely an underestimate.
8 Over the last decade, the rate of plastic consumption by fish has doubled, increasing by 2.4
9 percent every year. The Savoca study showed that new species of fish were discovered with
10 plastic inside of them each year.

11 372. The evidence showing that plastic harms California wildlife is overwhelming.
12 ExxonMobil's rampant plastic production, brought about by its decades-long campaign of
13 deception regarding the recyclability of plastic, has substantially caused and is causing
14 foreseeable harm to California's wildlife. The estimated cost of plastic degradation to the marine
15 environment is \$33,000 per tonne of plastic waste,²¹⁴ though the true economic cost is likely to be
16 greater. The State, its People, and its ecosystems, bear this cost. The plastic crisis that kills and
17 injures California's wildlife is offensive and indecent, and any reasonable person would be
18 annoyed or disturbed.

19 **B. Plastic Waste and Pollution Substantially Caused by ExxonMobil Harm
20 the Public's Ability to Enjoy and Recreate in California.**

21 373. Plastic pollution of California's environment significantly interferes with the
22 public's enjoyment and use of California's public spaces. Plastic waste and pollution negatively
23 impact the recreational and aesthetic value of California's beaches, coastlines, environments,
24 parks, lakes, rivers, and other waterways, and is costly to remove.

25 374. The presence of plastic litter and microplastics adversely affects the quality of

26 ²¹³ Kahane-Rappaport et al., *Field Measurements Reveal Exposure Risk to Microplastic
27 Ingestion By Filter-Feeding Megafauna*, 13 Nature Communication 6327 (Nov. 1, 2022).

28 ²¹⁴ Coffee et al., UCLA Luskin Ctr. for Innovation, Plastic Waste in Los Angeles County:
Impacts, Recyclability, and the Potential for Alternatives in the Food Service Sector (Jan. 2020).

1 fresh and saltwater bodies of water in California and causes inconvenience and annoyance to any
2 reasonable person. The condition affects a substantial number of people who use California
3 waterways for commercial and recreational purposes and interferes with the rights of the public at
4 large to a clean and safe environment.

5 375. The various beaches and wetlands that constitute public tidelands support public
6 access and coastal recreational activities like surfing, sunbathing, swimming, birdwatching, and
7 fishing. The Coastal Act mandates that California provide maximum access and recreational
8 opportunities to the public and protect, encourage, and provide lower-cost visitor and recreational
9 opportunities in the interest of environmental justice.

10 376. Plastic pollution is also damaging public spaces in California. For decades,
11 single-use plastic waste has fouled California's beaches. Since 1985, the California Coastal
12 Commission has organized its annual Coastal Cleanup Day to address litter in California. Since
13 its inception, the Cleanup Day has collected over 26 million pounds of beach debris,
14 approximately 81 percent of which is plastic. Since 1988, plastic waste, including cigarette filters,
15 food wrappers, bags, and bottles have consistently ranked in the top 10 items found on
16 California's beaches during the annual Cleanup Day.

17 377. Plastic pollution in the marine environment negatively impacts recreational
18 activity in California. Plastic pollution creates a visual and aesthetic problem that impacts local
19 tourism. Litter on beaches and coastlines discourages tourism—in fact, litter is often cited as a
20 primary reason why tourists spend less time at or avoid certain locales. Beach visitors are likely to
21 be concerned about marine debris because it poses potential physical harms from lacerations,
22 bacterial infections, or entanglements during swimming, and because it detracts from the
23 perceived natural beauty of an area.

24 378. A NOAA study found that Orange County residents avoided going to littered
25 beaches and spent millions of dollars annually driving to cleaner beaches.²¹⁵ The study concluded
26 that reducing marine debris by 50 percent would lead to a \$67 million benefit to Orange County

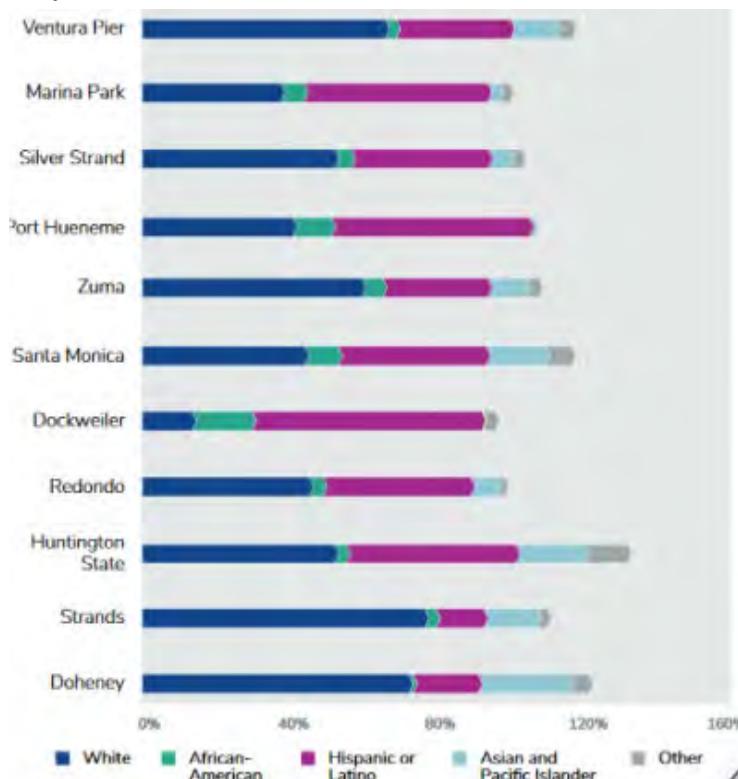
27 ²¹⁵ Leggett et al., Industrial Economics, Inc. (prepared for Marine Debris Div., Nat.
28 Oceanic and Atmospheric Admin.), Assessing the Economic Benefits of Reductions in Marine
Debris-A Pilot Study of Beach Recreation in Orange County, California (June 15, 2014).

1 residents over a three-month period. Given the enormous popularity of California beaches, the
 2 magnitude of recreational losses associated with plastic debris is substantial.²¹⁶

3 **C. ExxonMobil Substantially Caused and Is Causing Plastic Waste and
 4 Pollution That Disproportionately Affects California's Communities of
 Color and Low-Income Populations.**

5 379. Plastic beach pollution also disproportionately affects Black and Latinx
 6 residents in California. A UCLA study found that Dockweiler State Beach was the most popular
 7 Southern California beach for Black and Latinx visitors. See Figure K, below. Dockweiler State
 8 Beach had the fewest white visitors, and had the poorest visitors of all surveyed beaches, with
 9 most visitors' household income being below \$50,000 per year.²¹⁷ A separate federal study found
 10 that Dockweiler had the most trash density—primarily plastic waste—out of every Southern
 11 California beach surveyed.²¹⁸

12 **Figure K: Ethnicity of Southern California Beach Visitors**



25 ²¹⁶ Stickel, et al., Kier Associates (prepared for U.S. Environmental Protection Agency),
 26 The Cost to West Coast Communities of Dealing with Trash, Reducing Marine Debris (Sep.
 2012) (west coast spends \$520 million per year to clean up pollution on coast).

27 ²¹⁷ Christensen et al., UCLA Coastal Access Report Southern California Supplement (Jan.
 25, 2017).

28 ²¹⁸ Leggett et al., Assessing the Economic Benefits of Reductions in Marine Debris: A
 Pilot Study of Beach Recreation in Orange County, California, *supra*, at page 17.

1 380. Plastic pollution in California also disproportionately harms subsistence fishing.
2 Chemicals in marine plastic pollution may be ingested by fish, as well as adsorbed onto the
3 plastic which is then ingested and bioaccumulated in fish. Smaller microplastics can be caught in
4 the tissues of the gills, and the simple action of consuming plastic reduces the fish's capacity to
5 ingest nutritious food and therefore lowers the nutritional and reproductive value of the fish.

6 381. Because plastics disintegrate into infinitesimally small pieces in our waterways,
7 they are ingested by filter-feeding organisms and thus have entered all links of the marine food
8 chain. Californians who consume fish and other seafood, including those who fish for
9 subsistence, thus also consume microplastics.

10 382. Sea Grant-funded research has examined the demographics of anglers from San
11 Diego Bay, San Francisco Bay, and Central Valley waterbodies. Based on 2015 Census tracts,
12 almost all pier anglers reported under the 200 percent poverty level, defined as a household of
13 four with a total annual income of less than \$50,000, with many under the 100 percent poverty
14 level (less than \$25,000).

15 383. The Sea Grant study shows only about 10 percent of pier and shore-based
16 anglers had a college degree, and many never finished high school. By comparison, 50 to 75
17 percent of private and charter boat-based anglers were college educated and had an annual
18 income greater than \$50,000 per year. California pier anglers were predominantly Asian, with
19 Hispanic and Black anglers present in lower yet substantial proportions. White anglers were the
20 smallest demographic of pier anglers and the largest demographic of boat-based anglers.

21 384. Sea Grant researchers also found that California pier anglers consume more of
22 their catch than private boat, charter boat, and other shoreline anglers combined. The more times
23 an angler fished per week, the higher their consumption rate.

24 385. Based on this data, the majority of California pier anglers are people of color
25 without a college degree from low-income communities who often eat what they catch. Locally
26 caught fish as the primary protein in a diet is inexpensive but has other costs—higher levels of
27 fish consumption mean higher levels of plastic pollution consumed.

28 386. Consumption of sport fish is an important food source for Californians.

1 Approximately 33 percent of recreational and subsistence anglers in Los Angeles County
2 consume their catches.

3 387. In California, there have for decades been coastal advisories aimed at limiting
4 consumption of nearshore saltwater fish, such as White Croaker (*Genyonemus lineatus*), because
5 of environmental contamination bio-accumulating in their bodies. Microplastic bioaccumulation
6 in fish only stands to exacerbate concern about human consumption of these species.

7 388. The prevalence of plastic pollution in the marine food chain causes concerning
8 risks for Californians who depend on the ocean for food, such as subsistence anglers, and also for
9 recreational anglers. Furthermore, the relentless influx of plastic polluting vital food sources
10 exacerbates the disparities faced by Black, Latinx, and other Californian people of color,
11 particularly those with lower incomes who rely on these resources for sustenance.

12 389. ExxonMobil's substantial creation of the plastic waste and pollution crisis
13 through its deception about plastic's recyclability has caused the State enormous harm. Residents
14 cannot enjoy California's beaches, oceans, and other natural and public trust resources, including
15 fish, to their full extent because of plastic pollution.

16 **D. ExxonMobil Substantially Caused and Is Causing Plastic Waste and
17 Pollution That Harm California's Local Coastal Economies.**

18 390. Plastic pollution of California's environment has a range of economic costs to
19 California, including loss of tourism and tax revenue for communities. Plastic waste and pollution
20 also interfere with California's commercial and recreational fishing and boat navigation.

21 391. Additionally, plastic waste and pollution negatively impacts fish populations
22 that California's fishing economy depends upon. Marine plastic pollution not only reduces the
23 efficiency and productivity of commercial fisheries and aquaculture through physical
24 entanglement and damage but also poses a direct risk to fish and shellfish stocks. A wide range of
25 marine species, including those commonly consumed by humans, ingest plastic pollution directly
26 or indirectly by ingesting plastic-contaminated prey. Plastic contamination in the food chain
27 harms, sometimes lethally, fish and shellfish stocks, which impacts the productivity and
28 profitability of California's fishing and aquaculture industries. Studies have shown that 25 percent

1 of California's commercial fish supply is contaminated with anthropogenic debris.²¹⁹ Another
2 study shows that 25 percent of fish from a creek that flows into San Diego Bay contain
3 microplastics.²²⁰

4 **E. ExxonMobil Substantially Caused and Is Causing Plastic Waste and
5 Pollution That Results in Significant Economic Harm to California
Taxpayers and Public Entities.**

6 392. Plastic pollution of California's environment has caused and continues to cause
7 direct economic harm to public entities and taxpayers in California. The costs of managing and
8 cleaning up plastic waste are largely borne by residents and taxpayers via municipal governments.
9 Those costs have grown over the past three decades, as explained in more detail in the following
10 paragraphs.

11 393. Through its deception about the capacity of recycling to solve the plastic waste
12 and pollution crisis, ExxonMobil worked to avoid any limitations on or pressures on its business
13 model. California's state and municipal governments and California residents/taxpayers bear the
14 tangible and quantifiable costs of ExxonMobil's campaign of deception.

15 **1. Costs for collecting, hauling, and disposing of plastic waste.**

16 394. California households pay for the collection, hauling, and disposal of plastic
17 waste. Over the past three decades, the amount of plastic waste has skyrocketed due to
18 ExxonMobil's expansion of its plastic production, which, coupled with ExxonMobil's decades-
19 long campaign of deception around recycling, has foreseeably led to store shelves flooded with
20 products in plastic packaging and a plastic waste and pollution crisis. Since plastic recycling is
21 not economically viable at scale, consumers have been forced to pay for disposal of more plastic
22 waste. At the same time, the cost of waste disposal has also increased.²²¹

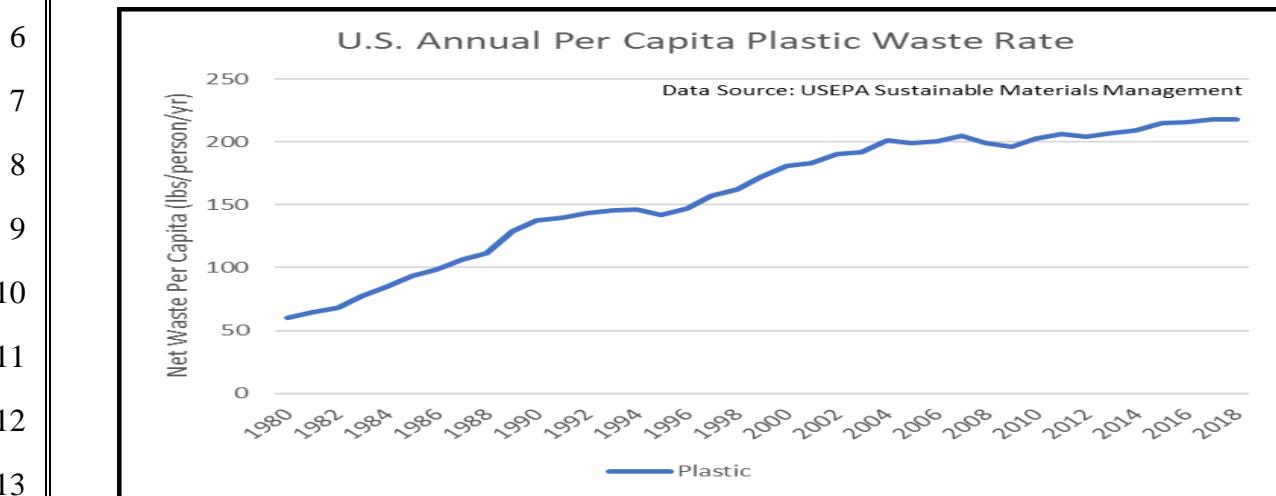
23
24 ²¹⁹ Rochman et al., *Anthropogenic Debris in Seafood: Plastic Debris and Fibers from Textiles in Fish and Bivalves Sold for Human Consumption*, 5 Scientific Reports 14340 (Sep. 24, 2015).

25 ²²⁰ Talley et al., *Natural History Matters: Plastics in Estuarine Fish and Sediments at the Mouth of an Urban Watershed*, PLOS One (Mar. 18, 2020).

26 ²²¹ Global Disposal, [Rising Waste Disposal and Recycling Costs for California Communities: What You Should Know](https://www.globaldisposal.com/blog/rising-waste-disposal-and-recycling-costs-for-california-communities-what-you-should-know) (Oct. 21, 2022) <<https://www.globaldisposal.com/blog/rising-waste-disposal-and-recycling-costs-for-california-communities-what-you-should-know>> (as of July 29, 2024).

1 395. The U.S. Environmental Protection Agency (USEPA) published plastic waste
 2 data at the national level from 1960 through 2018.²²² Figure L, below, shows that the national
 3 average per capita plastic waste generation rate increased from 60 pounds per person per year in
 4 1980 to 137.3 pounds per person per year in 1990 to 218.3 pounds per person per year in 2018.

5 **Figure L: United States Annual Per Capita Plastic Waste Rate**



396. CalRecycle has published waste characterization reports since 1999. Figures L
 and M, below, summarize the plastic waste data included in CalRecycle's reports for 1999, 2008,
 2014, and 2021. Using California's population data over that period, plastic waste generation per
 capita grew approximately from 190.78 pounds per person per year in 1999 to 278.21 pounds per
 person per year in 2021.

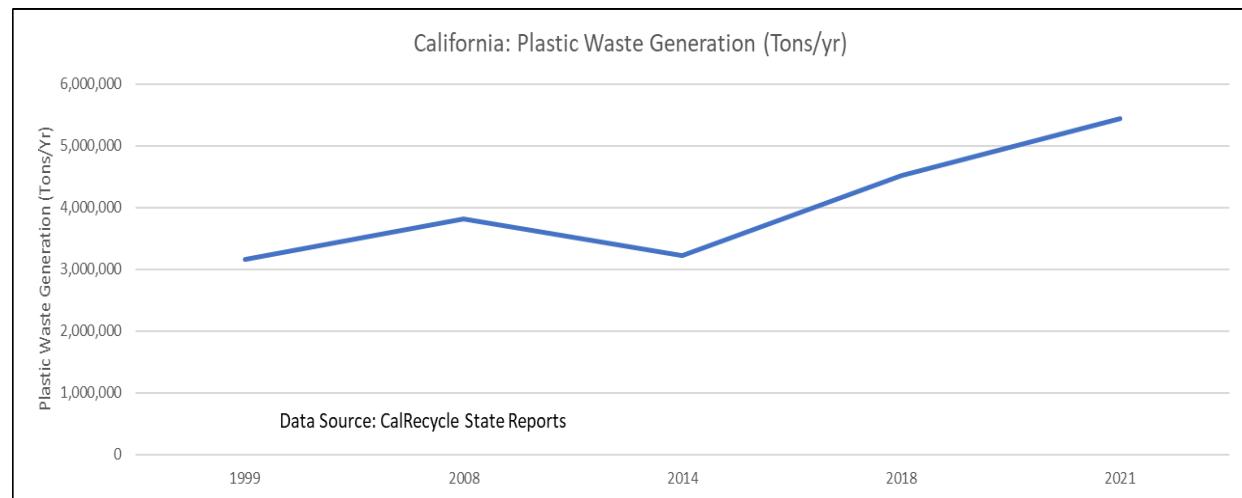
397 **Figure M: Summary of CalRecycle Waste Characterization Data**

CA Waste Characterization	1999	2008	2014	2018	2021
Percent plastic	8.9%	9.6%	10.4%	11.5%	13.7%
Total Plastic Waste (U.S. tons)	3,161,777	3,807,952	3,215,943	4,524,052	5,445,299
<u>Population</u> ²²³	33,145,121	36,604,337	38,586,706	39,437,463	39,145,060
Per capita (Pounds/person/year)	190.78	208.06	166.69	229.43	278.21

²²² U.S. Environmental Protection Agency, Studies, Summary Tables, and Data Related to the Advancing Sustainable Materials Management Report.

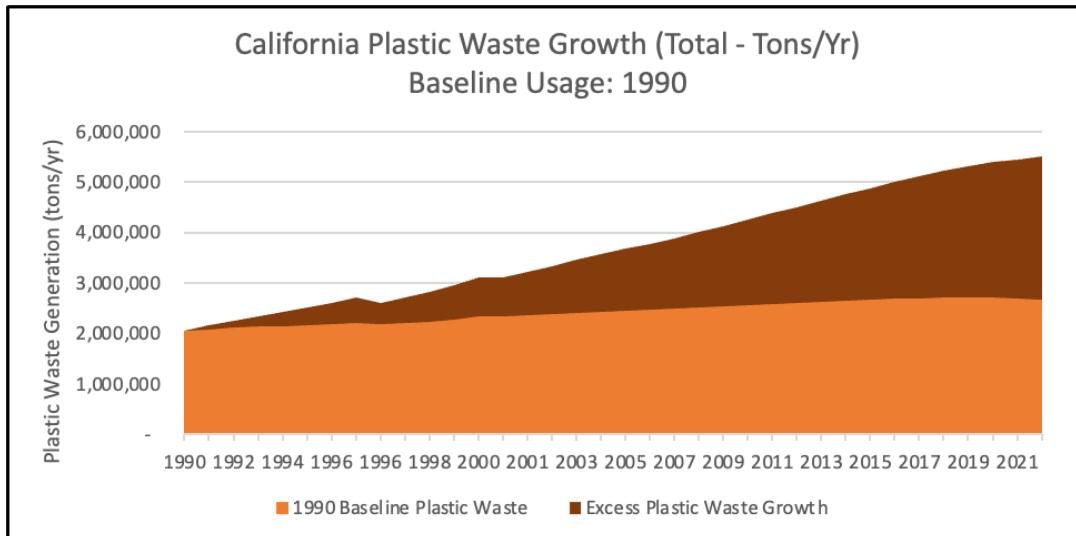
²²³ MacroTrends, California Population 1900-2023 <https://www.macrotrends.net/global-metrics/states/california/population#google_vignette> (as of July 29, 2024).

1 **Figure N: Summary of CalRecycle Waste Characterization Data**



397. As discussed above, ExxonMobil, independently and through its involvement in plastics industry and front groups, has misled consumers, policymakers, and regulators about the ability of plastic recycling to handle the massive volume of plastic waste since the 1980s, which led to a glut of plastic waste. Figure O, below, the growth in excess plastic waste over the 1990 baseline, shows that between 1990 and 2022, about 47 million tons of excess plastic waste was generated in California.²²⁴

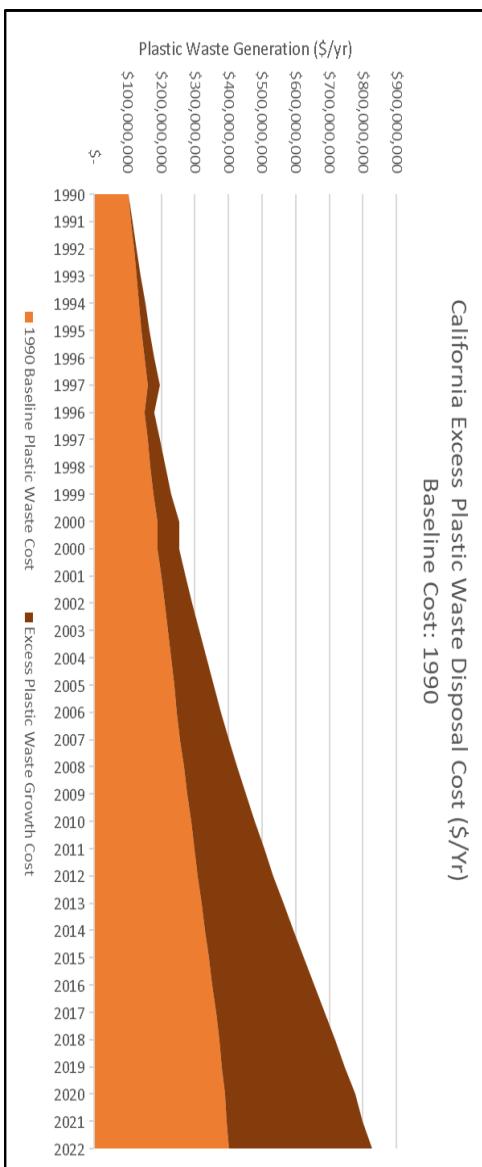
16 **Figure O: California Excess Plastic Waste Growth (1990 to 2022)**



224 This estimate is based on the U.S. EPA 1990 baseline of 137.3 pounds per person per year of plastic waste generation, the CalRecycle 2021 figure of 278.21 pounds per person per year of plastic waste generation, and California's population data. For the purpose of creating a credible, conservative cost estimate, a baseline year of 1990 was assumed for determining the "excess" plastic waste generated since ExxonMobil's plastic recycling campaign significantly increased at that time.

1 398. Figure P, below, shows the growth in cost to collect, haul, and dispose of
2 California's plastic waste from 1990 to 2022.²²⁵ Over that time, the per U.S. ton cost to collect,
3 haul, and dispose of all waste has risen dramatically. This cost assumes that the average statewide
4 cost to collect, haul, and dispose of waste in 1990 was \$50 per U.S. ton and has increased to \$150
5 per U.S. ton²²⁶ in 2022, based on an increase in rate of 200% in waste management costs over that
6 32-year period. Based on this data and these assumptions, the cost to Californians to collect, haul,
7 and dispose of excess plastic waste from 1990 through 2022 was \$5.5 billion dollars (without
8 accounting for inflation).

9 **Figure P: California Excess Plastic Waste Disposal Cost**



2. Costs of plastic contamination in California's recycling system.

399. The increasing plastic waste resulting from ExxonMobil's increasing
20 production of new plastic has also led to increased recycling costs for California. In 1989, the
21 California State Legislature signed Assembly Bill (AB) 939 into law, which mandated every local
22 jurisdiction in California to reduce their 1990 baseline waste by 25 percent by the year 1995, and
23 by 50 percent by the year 2000. In 2011, AB 341 established a statewide goal that at least 75
24 percent of solid waste generated should be source-reduced, recycled, or composted by the year
25 2020. As a direct result of the 1989 legislation, cities in California were required to design and
26

²²⁵ *Ibid.*

²²⁶ See, e.g., City of Berkeley, Transfer Station <<https://berkeleyca.gov/city-services/trash-recycling/transfer-station>>; Del Norte County, Schedule B: Transfer Station Rates <<https://recycledehorte.ca.gov/dist/docs/rates/dnco-rates.pdf>> (as of July 29, 2024).

1 implement curbside recycling programs that required mandatory participation by all residents.

2 400. Plastic contaminates the processing and sorting of post-consumer materials
3 placed in curbside recycling bins and causes a significant and quantifiable cost. This
4 contamination is the direct result of ExxonMobil's deceptive messages regarding plastic recycling
5 and its promotion of false recyclable labels (such as the chasing arrows symbol, discussed above),
6 which misled consumers to believe that the majority of plastics can be recycled. Based on this
7 misconception, consumers put a wide range of plastics in the recycling bin. These plastics,
8 particularly single-use plastics such as plastic bags and films, contaminate the waste stream with
9 material that is not actually recyclable.²²⁷ A 2019 survey showed that more than half of
10 Californians mistakenly put plastic bags in recycling bins.²²⁸

11 401. A contaminated waste stream has economic costs: it increases collection and
12 processing costs and damages sorting systems and equipment.²²⁹ Energy, equipment, trucking,
13 and labor costs and carbon emissions are wasted from collecting and sorting unwanted, worthless
14 items through municipal sortation systems.²³⁰ According to a survey by the industry publication
15 Waste Dive, over 100 cities canceled their curbside recycling systems with contamination cited as
16 a major contributing factor for closure.²³¹ Contamination harms the ability of sorting facilities to
17 effectively sort other materials such as cardboard and paper that are easily ruined by contact with
18 food-soiled packaging.²³² Collected curbside recycled materials are screened by material recovery
19 facilities (MRF), waste sorting plants that separate and prepare single-stream recycling materials
20 for sale to end buyers. If the screening reveals excessive contamination, the entire truckload may
21 be sent to a landfill. This disrupts California's curbside recycling system, in that large volumes of

22 ²²⁷ Rachelson, *What is Recycling Contamination, and Why Does it Matter?* Rubicon
23 (updated Feb. 6, 2023) <<https://www.rubicon.com/blog/recycling-contamination/>> (as of July 29,
24 2024).

25 ²²⁸ Tanimoto, The Recycling Partnership, 2019 West Coast Contamination Initiative
26 Research Report (Apr. 2020).

27 ²²⁹ Oregon Truth in Labeling Task Force, Truth in Labeling Final Report and
28 Recommendations (June 1, 2022).

²³⁰ Rachelson, *What is Recycling Contamination, and Why Does it Matter?*, *supra*.

²³¹ Waste Dive, *Where Curbside Recycling Programs Have Stopped and Started in the US*
(Dec. 18, 2019, updated Jan. 9, 2023) <<https://www.wastedive.com/news/curbside-recycling-cancellation-tracker/569250/>> (as of July 29, 2024).

²³² Marshall et al., *The Heavy Toll of Contamination*, Recycling Today (May 2017)
<<https://www.recyclingtoday.com/article/the-heavy-toll-of-contamination/>> (as of July 29, 2024).

1 non-plastic recyclable materials (e.g., cardboard, metal, glass) do not get recycled.

2 402. Based on the available data and cost assumptions, the cost of plastic
3 contamination from curbside bins over the 1990 to 2022 period is estimated to be \$15.7 billion in
4 California (without accounting for inflation).

5 **3. Costs for worker injuries from plastic contamination in California's
6 recycling system.**

7 403. Increased plastic contamination in California's recycling system threatens
8 worker safety. In 2021, refuse and recyclable material collection was considered the seventh
9 deadliest job in the country. According to data collected by the U.S. Department of Labor's
10 Bureau of Labor Statistics in the Census of Fatal Occupational Injuries, refuse and recyclable
11 material collectors had a fatal injury rate of 27.9 per 100,000 full-time equivalent workers.²³³
12 Risks of injury and harm are increased when workers need to sort through increasingly
13 contaminated loads and remove contaminants, such as plastic, from machinery.²³⁴

14 404. These increased costs are also the direct and foreseeable result of ExxonMobil's
15 deceptive marketing to the public around the feasibility of plastic recycling to handle the massive
16 amount of plastic waste generated. According to Susan Epps, a leading authority on MRFs safety,
17 who participated in an investigation in 2019 by Waste Dive, "Any time someone puts an item in
18 the recycling stream that's not accepted, it's usually someone else's job to take it out. Any time
19 you touch material you have an opportunity to have an injury. And so, the number of
20 opportunities in these facilities is great." "With fluctuating injury rates, and ongoing fatalities,
21 MRFs remain a key safety challenge." In fact, these recycling facilities have been singled out by
22 the Bureau of Labor and Standards for having some of the highest rates of days away, restricted
23 or transferred (DART) among all occupations in the United States.

24 405. A July 2022 *CBS Morning News* segment also illustrates the dangers recycling
25 workers face, as well as the increased risk of danger when unrecyclable products are placed in the
26 recycling stream. In the video, a MRF worker explains the multiple harms caused by

27 ²³³ U.S. Dept. of Labor, National Census of Fatal Occupational Injuries 2021 (Dec. 16,
28 2022).

²³⁴ Rachelson, *What is Recycling Contamination, And Why Does it Matter?*, *supra*.

1 contamination of the recycling stream with flexible plastic packaging. He states that MRF
2 workers must clean plastic waste from the equipment for two hours every day. The MRF worker
3 states that flexible plastic film packaging can cause fires in MRFs. Plastic is highly flammable,
4 and MRFs and plastic recycling facilities can operate with inadequate environmental protections.
5 As shown by a massive fire at a plastic recycling and storage facility in Indiana in April 2023,
6 significant health, social, and economic harms to communities can result from fires fueled by
7 plastic waste.

8 **4. Plastic manufacturing plants and recycling centers
9 disproportionately impact communities of color and low-income
populations.**

10 406. Because of ExxonMobil's campaign of deception regarding the ability of
11 plastic recycling to handle the massive amount of plastic waste generated, plastic waste and
12 pollution has overrun the fragile system built to process it. MRFs and plastic manufacturing
13 plants predominantly located in California's most vulnerable and already environmentally
14 overburdened communities are causing an excess of truck impacts, odors, and injury.

15 407. MRFs and plastics manufacturing plants, which are necessitated by
16 ExxonMobil's campaign of deception around the recyclability of plastic, are often sited in or near
17 marginalized communities of color.²³⁵ For example, plastic manufacturing plants and MRFs²³⁶
18 are located in the most polluted neighborhoods in greater Los Angeles,²³⁷ which are
19 predominately Latinx and Black.²³⁸ According to CalEnviroScreen 4.0,²³⁹ Latinx populations
20 experience the heaviest environmental burden in Los Angeles. The cities of Compton, Lynwood,

21
22 ²³⁵ U.S. Environmental Protection Agency, *National Overview: Facts and Figures on
Materials, Wastes and Recycling, supra.*

23 ²³⁶ Leif, *EPA Leader Connects Recycling and Environmental Justice*, Resource Recycling
(May 4, 2021) <https://resource-recycling.com/recycling/2021/05/04/epa-leader-connects-recycling-and-environmental-justice/?utm_medium=email&utm_source=internal&utm_campaign=May+4+RR> (as of July 29, 2024).

24 ²³⁷ Cal. Office of Environmental Health and Hazard Assessment, CalEnviroScreen 4.0
<<https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40>> (as of July 29, 2024).

25 ²³⁸ *Ibid*; Best Neighborhood, *Race Map for Los Angeles, CA and Racial Diversity Data*
<<https://bestneighborhood.org/race-in-los-angeles-county-ca/>> (as of July 29, 2024).

26 ²³⁹ CalEnviroScreen is a tool that measures environmental health in California
27 communities; it functions as an internet mapping tool to analyze colocation of different
28 environmental burdens.

1 and Carson, for example, have the highest pollution burden scores in CalEnviroScreen and are
2 predominantly made up of Latinx, Black, and Asian-American populations. Los Angeles County
3 has 28 MRFs, 14 of which are clustered along the corridors along the I-5, I-110, and I-710
4 freeways.

5 408. Proximity to MRFs is highly correlated with physical respiratory injury in
6 children and noxious odors in neighborhoods such as Oak View in Huntington Beach.²⁴⁰ This
7 neighborhood is in the 93rd percentile for pollution burden and is 66 percent Latinx according to
8 the CalEnviroScreen 4.0 tool and recent census data.

9 409. Data shows that these plastic producing facilities and MRFs are located within
10 environmentally overburdened communities and communities of color. These communities also
11 bear the brunt of climate change impacts, which are exacerbated by greenhouse gas emissions
12 attributable to the production, transport, and disposal of plastic and plastic waste. Air emissions
13 (including greenhouse gases, odors, and toxic pollutants from plastics manufacturing facilities
14 and MRFs) will continue to disproportionately impact these overburdened communities as long as
15 Defendants' actions remain unchecked.

16 **5. Costs for plastic litter clean-up.**

17 410. California's local jurisdictions expend significant sums to clean up and prevent
18 plastic pollution from further damaging the environment (plastic comprises an estimated 80
19 percent of total litter). These clean-up costs include litter remediation efforts such as beach and
20 waterway clean-up, street sweeping, storm drain grate cleaning and maintenance, storm water
21 capture device installation, manual litter clean-up, and public re-education.

22 411. A 2013 Natural Resources Defense Council (NRDC) report concluded that
23 California local governments spend more than \$428 million annually to prevent litter, over 80
24

25 ²⁴⁰ The Rainbow MRF in Huntington Beach can be found on the Cal EnviroScreen
26 website here: <https://oehha.ca.gov/calenviroscreen>, using the SB 535 Disadvantaged
27 Communities overlay, and has been the subject of numerous news articles. See, e.g., Mellen,
28 *After Years of Complaints about Odor Pollution HB School District Settles Suit with Trash
Hauler*, Orange County Register (Nov. 17, 2016) <[https://www.ocregister.com/2016/11/17/after-
years-of-complaints-about-odor-pollution-hb-school-district-settles-suit-with-trash-hauler/](https://www.ocregister.com/2016/11/17/after-years-of-complaints-about-odor-pollution-hb-school-district-settles-suit-with-trash-hauler/)> (as of
July 29, 2024) (as of July 29, 2024).

1 percent of which is plastic, from entering waterways.²⁴¹ Since 2013, the plastic waste and
2 pollution crisis in California has only intensified. New research suggests costs of litter
3 management to city governments have more than doubled over the last 10 years, and now stand at
4 approximately \$1 billion per year total across the state.

5 412. In order to confront the crisis of rising plastic waste and pollution, the State has
6 undertaken, and continues to undertake, complex and costly monitoring, research, regulatory,
7 mitigation, and remediation efforts. This essential work has caused the State and its taxpayers to
8 incur significant economic harm.

9
10 **6. Impacts to California's environment forces California to adopt
legislation and regulatory programs to combat the increased plastic
pollution caused by ExxonMobil's campaign of deception around
plastic recycling.**

11
12 413. ExxonMobil exacerbated the plastic crisis by overproducing virgin plastic while
13 misleading consumers to believe that recycling is a viable waste management strategy and renders
14 single-use plastic sustainable. As a result, the State has been forced to take necessary action to
15 combat plastic pollution and will be required to continue ramping up costly regulatory and
16 remedial activities in the future to address the plastics crisis substantially and proximately caused
17 by ExxonMobil's deception.

18 414. Implementing regulatory programs to address plastic waste and pollution—both
19 in the past, through the present, and increasingly over the future—requires a significant public
20 cost. This cost will increase as additional regulatory programs needed to fully address the plastic
21 waste and pollution crisis in California are implemented.

22 415. The California legislature has taken multiple approaches to reducing plastic
23 waste. California's legislature passed Senate Bill (SB) 54 (Allen, Chapter 75, Statutes of 2022)—
24 the Plastic Pollution Prevention and Packaging Producer Responsibility Act—and Senate Bill 343
25 (Allen, Chapter 507, Statutes of 2021), which restricts the use of recycling claims on products and
26

27 ²⁴¹ Stickel et al., Kier Associates (prepared for Natural Resources Defense Council),
28 Waste in Our Water: The Annual Cost to California Communities of Reducing Litter That
Pollutes Our Waterways (Aug. 2013) page 19.

1 would prohibit the sale, distribution, or import of products with deceptive or misleading claims
2 about recyclability.

3 416. In addition, Senate Bill 1335 (Allen, Chapter 610, Statutes of 2018) established
4 the Sustainable Packaging for the State of California Act of 2018. Beginning January 1, 2021, a
5 food service business on state property is prohibited from dispensing prepared, ready-to-eat food
6 or beverages that are not packaged in a reusable, recyclable, or compostable manner.²⁴²

7 417. Trash, including mostly plastic debris, commonly pollutes State waters,
8 transported by storm water, including through storm drains. The storm drains often convey water
9 directly to water bodies, contributing to the expanded list of California's impaired water bodies.
10 The presence of emerging contaminants, including microplastics in urban runoff, presents
11 significant challenges for storm water capture and use or aquifer recharge through infiltration.

12 418. The State also bears the cost of addressing the plastic pollution on California's
13 highway system infrastructure, which ExxonMobil substantially and proximately caused and
14 continues to exacerbate. Roadway litter, most of which is plastic, clogs freeways and endangers
15 travelers. Constant maintenance, expensive equipment, and costly public education campaigns are
16 required to keep the highways and roads free of plastic pollution.

17 419. For example, costly capture devices are required to keep the highway system,
18 an integral part of Californian infrastructure, functional and safe. Procurement and installation of
19 these devices costs approximately \$150,000 to \$300,000 per acre of watershed. Current estimates
20 show at least 22,000 acres will require capture devices to maintain highways statewide. It would
21 require a minimum of *between \$3.3 to \$6.6 billion* to address this issue alone.

22 420. The State must also fund programs to keep its park lands and coastlines free of
23 plastic. Plastic does not biodegrade and lasts forever in a park unit; therefore, constant

24 242 See also Assem. Bill 2812 (2015-2016 Reg. Sess.) [recycling in office buildings];
25 Assem. Bill 901 (2015-2016 Reg. Sess.) [quarterly waste and recycling reporting to CalRecycle];
26 Assem. Bill 2675 (2014-2015 Reg. Sess.) [state agency purchases of recycled products]; Assem.
27 Bill 341 (2011-2012 Reg. Sess.) [separation of recyclable materials and implementation of solid
28 waste recycling programs, statewide 75 percent recycling goal to be achieved by 2020]; Assem.
Bill 939 (1989 as amended) [divert 25 percent of solid waste by 1995 and 50 percent by year
2000].

1 maintenance must be done to abate the increasing amounts of plastic that enter the environment.
2 Data from citizen clean-ups shows over 50 percent of reported litter collected by volunteers in
3 California state parks contains plastic such as bottles, plastic bags, and food wrappers. While
4 ExxonMobil continues to produce more and more virgin plastic and deceive the public,
5 Californians are left to clean up the mess, year after year.

6 421. The plastic pollution crisis and growing problem of microplastic pollution in
7 California's environment has necessitated the development of statewide strategies and guidance,
8 including the California Ocean Litter Prevention Strategy²⁴³ and the Statewide Microplastics
9 Strategy, to improve coordination across state agencies to advance solutions and guide State
10 investments to reduce and prevent ongoing plastic pollution.

11 422. California taxpayers should not bear the entirety of the public investment
12 needed to understand, and ultimately remediate, the multitude of damaging effects of plastics.
13 Instead, this cost should be allocated to those, such as ExxonMobil, that are responsible for
14 creating and intensifying the plastic waste and pollution crisis by its decades-long efforts to
15 deceive the public into believing that we can recycle our way out of this mess while
16 simultaneously continuing to saturate consumers with an increasing amount of single-use virgin
17 plastic materials and products despite the known and foreseeable harms and risks.

18 **CAUSES OF ACTION**

19 **FIRST CAUSE OF ACTION**

20 Public Nuisance

21 (Civil Code Sections 3479, 3480, and 3494)

22 423. Plaintiff re-alleges and incorporates by reference the allegations in each of
23 paragraphs 1 through 422 as though fully set forth herein.

24 424. Under Civil Code section 3479, a "nuisance" is "anything which is indecent or
25 offensive to the senses," or "an obstruction to the free use of property, so as to interfere with the
26 comfortable enjoyment of life or property," or "unlawfully obstructs the free passage or use, in

27
28

²⁴³ OPC 2018, *supra*.

1 the customary manner, of any navigable lake, or river, bay, stream, canal, or basin, or any public
2 park, square, street, or highway.”

3 425. Under Civil Code section 3480, a “public nuisance” is “one which affects at the
4 same time an entire community or neighborhood, or any considerable number of persons,
5 although the extent of the annoyance or damage inflicted upon individuals may be unequal.”

6 426. Defendants, individually and in concert with each other, by their affirmative
7 acts and omissions, have created, caused, contributed to, and assisted in creating harmful plastic
8 pollution throughout California, which threatens and harms the environment, wildlife, and
9 communities. These harms are indecent and offensive to the senses, and obstruct the free use of
10 property, so as to interfere with the comfortable enjoyment of life or property, and therefore
11 constitute a nuisance.

12 427. Defendants caused, assisted in causing and/or contributed to plastic pollution
13 that harms and threatens to harm the California environment, wildlife, natural resources, and
14 communities, by (1) promoting and vastly increasing the production of single-use plastic, while
15 (2) deceptively promoting that recycling would take care of the consequent tremendous increase
16 in plastic waste, and (3) while knowing that increasing plastic waste inevitably leads to increasing
17 plastic pollution and (4) knowing that once plastic enters the environment, it leads to
18 environmental harms, including through microplastic pollution, which poses an even greater
19 threat of harm to all living things.

20 428. The plastic-related harms that Defendants created, caused, contributed to, and
21 assisted in the creation of have substantially and unreasonably interfered with the exercise of
22 rights common to the public, including the public safety, the public peace, and the public comfort.
23 These interferences with public rights include, among other things, harms caused to animal
24 health; aesthetic and physical harm to public spaces and wildlife; interference with the public
25 recreation and the local coastal economy; disproportionate harms to communities of color; and
26 contamination of groundwater, beaches, and waterways.

27 429. Defendants caused and/or contributed to the alleged public nuisance by
28 designing, marketing, developing, distributing, selling, manufacturing, releasing, supplying,

1 using, and/or enabling plastic production and promoting plastic to the public, including
2 Californians, as sustainable through the use of recycling and “advanced recycling”—all while
3 knowing to a substantial certainty that the foreseeable and intended use of these products and
4 recycling or “advanced recycling” would lead to widespread contamination and pollution in
5 California.

6 430. Defendants and each of them, knowingly, intentionally, and/or recklessly
7 created, caused, or assisted in the creation of a nuisance by falsely promising Californians, for
8 almost half a century, that recycling and “advanced recycling” would take care of the ever-
9 increasing amount of plastic waste generated by Defendants’ production, sale, and promotion of
10 its plastic products at all times, up to and including today.

11 431. The plastic-related harms that Defendants created, caused, contributed to, and
12 assisted in the creation of are present throughout California, and therefore affect a considerable
13 number of persons in California.

14 432. An ordinary person would be reasonably annoyed or disturbed by these harms.

15 433. The harms caused by Defendants’ nuisance-creating conduct are extremely
16 grave, and far outweigh the social utility of that conduct.

17 434. The plastic-related harms that Defendants created, caused, contributed to, and
18 assisted in the creation of continue to harm the State and its people into the present day, and will
19 continue to harm the State and its people many years into the future.

20 435. The State and its people did not consent to Defendants’ conduct.

21 436. The misconduct of Defendants, and each of them, was a substantial factor in
22 bringing about the continuing public nuisance.

23 437. As a direct and proximate result of Defendants’ acts and omissions, the State
24 has been required and will be required to expend significant public resources to mitigate the
25 impacts of plastics-related harms throughout California.

26 438. As a direct and proximate result of Defendants’ acts and omissions,
27 Californians have sustained and will sustain injuries to public safety and welfare; the loss of use
28 and enjoyment of natural resources; and obstruction to the free use of public property.

439. Defendants' acts and omissions have caused or threaten to cause injuries to people, properties, and natural resources in California that are indivisible.

SECOND CAUSE OF ACTION

Action for Equitable Relief for Pollution, Impairment, and Destruction of Natural Resources

(Government Code section 12607)

440. The People re-allege and incorporate by reference the allegations in each of paragraphs 1 through 422 as though fully set forth herein.

441. Government Code section 12607 authorizes the Attorney General to "maintain an action for equitable relief in the name of the people of the State of California against any person for the protection of the natural resources of the state from pollution, impairment, or destruction."

442. The statutory term "natural resource" is defined as including "land, water, air, minerals, vegetation, wildlife, silence, historic or aesthetic sites, or any other natural resource which, irrespective of ownership contributes, or in the future may contribute, to the health, safety, welfare, or enjoyment of a substantial number of persons, or to the substantial balance of an ecological community." (Gov. Code, § 12605.)

443. Defendants, and each of them, have engaged in and continue to engage in, conduct that caused or contributed to the pollution, impairment, and destruction of natural resources, including, but not limited to:

- a. Designing, marketing, developing, distributing, selling, manufacturing, releasing, supplying, using, and/or enabling plastic production and promoting plastic to the public, including Californians, as sustainable through the use of recycling and “advanced recycling”—all while knowing to a substantial certainty that the foreseeable and intended use of these products and recycling or “advanced recycling” would lead to widespread contamination and pollution in California;

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- b. Promoting, manufacturing, distributing, marketing and/or selling plastic and especially single-use plastic products without adequate testing or analysis of their impact on communities, and their persistence and disintegration in the environment;
- c. Concealing hazard information from regulators and the public;
- d. Concealing studies and other documents showing the dangers of plastic and the truth about the ability of mechanical recycling and “advanced recycling” to address the massive volume of plastic waste and pollution generated;
- e. Promoting, manufacturing, distributing, marketing and/or selling plastic recycling including “advanced recycling” to the public in California as a means to render plastic, particularly single-use plastic, sustainable, despite knowing that the infrastructure, market, and technology for plastic recycling, particularly for single-use plastics, are and would remain wholly inadequate for the volume of plastic produced and are technically and economically not viable at scale.

15 444. As a result of Defendants' misconduct, plastics are polluting California's
16 natural resources including, but not limited to: drinking water sources; groundwater; surface
17 water in bays, lakes, streams, and rivers; oceans; air; public parks; as well as soils; and fish and
18 wildlife.

19 445. As a result of Defendants' misconduct, plastics are polluting "other natural
20 resources" as described in the statute which, "irrespective of ownership contribute, or in the
21 future may contribute, to the health, safety, welfare, or enjoyment of a substantial number of
22 persons, or to the substantial balance of an ecological community."

23 446. The pollution, impairment, and destruction of natural resources including water,
24 wildlife, and other natural resources is continuing in nature.

25 447. The harms caused by Defendants can be equitably remediated because
26 reasonable methods exist for treating, remediating, and/or abating that contamination and its
27 attendant hazards to communities and the environment. In addition, plastic contamination

1 continues to move and spread throughout California, and plastic pollution levels at any given
2 contamination site fluctuate over time, thus pollution, impairment and destruction are ongoing.

3 448. Defendants' acts and omissions have caused an indivisible harm in California.

4 **THIRD CAUSE OF ACTION**

5 **Water Pollution**

6 (Fish and Game Code sections 5650 and 5650.1)

7 449. The People re-allege and incorporate by reference the allegations in each of
8 paragraphs 1 through 422 as though fully set forth herein.

9 450. Fish and Game Code section 5650, subdivision (a)(6), prohibits any person
10 from depositing in, permitting to pass into, and placing where it can pass into the waters of the
11 State any substance or materials deleterious to fish, plant life, mammals, or bird life.

12 451. Fish and Game Code section 5650.1 provides for injunctive relief and civil
13 penalties of not more than \$25,000 for each such violation of Fish and Game Code section 5650.
14 Such penalty is in addition to any other civil penalty imposed by law.

15 452. At all times relevant to this Complaint, Defendants, through their deception,
16 permitted to pass into the waters of the State plastic waste, in violation of Fish and Game Code
17 section 5650, subdivision (a)(6).

18 453. Defendants, through their deception, continue to permit to pass into the waters
19 of the State plastic waste, in violation of Fish and Game Code section 5650, subdivision (a)(6).

20 454. Plastic waste is a substance and material deleterious to fish, plant life,
21 mammals, and bird life. At all times relevant to this Complaint, Defendants, through their
22 deception, unlawfully permitted to pass into the waters of the State plastic waste, a substance and
23 material deleterious to fish, plant life, mammals, and bird life, in violation of Fish and Game
24 Code section 5650. Defendants are liable for civil penalties as set forth in Fish and Game Code
25 section 5650.1 for each and every separate violation of any of these provisions of the Fish and
26 Game Code and any permit, rule, regulation, standard, or requirement issued or promulgated
27 pursuant thereto.

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FOURTH CAUSE OF ACTION

Untrue or Misleading Advertising

(Business and Professions Code section 17500)

455. The People re-allege and incorporate by reference the allegations in each of paragraphs 1 through 422 as though fully set forth herein.

456. Defendants, and each of them, have engaged in and continue to engage in acts or practices that constitute violations of the False Advertising Law, Business and Professions Code section 17500 et seq.

457. Defendants, with the intent to induce members of the public to purchase and utilize plastics products, made or caused to be made and/or disseminated untrue or misleading statements concerning plastics and plastics recycling, which Defendants knew, or by the exercise of reasonable care should have known, were untrue or misleading at the time they were made.

Such misrepresentations include, but are not limited to:

- a. That single-use plastic is environmentally beneficial or benign;
- b. That effective techniques exist for recycling plastic;
- c. That the infrastructure, market, and technology for plastic recycling, particularly for single-use plastics, are, or are reasonably expected to become, adequate to address the volume of plastic produced;
- d. That recycling plastic is economically viable;
- e. That products bearing “mass balance” and “certified circular polymer” certificates are “recycled,” “circular,” or environmentally beneficial or benign;
- f. That products contain a particular percentage of recycled material that they do not actually contain;
- g. That “advanced recycling” is new or breakthrough technology;

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- h. That “advanced recycling” is a viable, effective, efficient, or scalable method for reducing plastic waste and pollution.
- i. That plastics do not create environmental hazards or that such hazards are negligible.

FIFTH CAUSE OF ACTION

Misleading Environmental Marketing

(Business and Professions Code section 17580.5)

458. The People re-allege and incorporate by reference the allegations in each of paragraphs 1 through 422 as though fully set forth herein.

459. Defendants, and each of them, have made environmental marketing claims that are untruthful, deceptive, and/or misleading, whether explicitly or implicitly, in violation of Business and Professions Code section 17580.5.

460. Such misleading environmental marketing claims include, but are not limited to, such deceptive representations as:

- a. Marketing plastic as infinitely recyclable;
- b. Marketing plastic as universally recyclable and “advanced recycling” as easy and inclusive, when most Californians do not have access to recycling for all products made of plastic and all plastic types;
- c. Marketing plastic, particularly single-use plastic, as sustainable based on its ostensible recyclability;
- d. Marketing chemical processes such as “advanced recycling” or pyrolysis as a legitimate, clean and/or effective plastic recycling process, when in fact the yield of plastic produced from these chemical processes is approximately eight percent;
- e. Marketing chemical processes such “advanced recycling” or pyrolysis as a legitimate effective plastic recycling process, when in fact the process transforms the vast majority of plastic waste into fuel and other non-plastic products and byproducts;

- 1 f. Selling “certified circular polymer” certificates through “advanced recycling”
- 2 based on a 90 to 100 percent yield, with knowledge that the yield was much
- 3 lower;
- 4 g. Claiming mass balance and/or free attribution or free allocation is a legitimate
- 5 approach to claim “certified” “circular polymer credits” and is a legitimate
- 6 technique for measuring effective recycling, when in fact it primarily produces
- 7 fuel, which is incinerated, and other non-circular products;
- 8 h. Selling “certified circular polymer” certificates based on false high yields; and
- 9 i. Selling “certified circular polymer” certificates based on equivalency with
- 10 having a certain amount of recycled or waste plastic content.

11 **SIXTH CAUSE OF ACTION**

12 **Unfair Competition**

13 (Business and Professions Code section 17200)

14 461. The people re-allege and incorporate by reference the allegations in each of
15 paragraphs 1 through 422 as though fully set forth herein.

16 462. Defendants have engaged in and continue to engage in unlawful, unfair, or
17 fraudulent business acts or practices and unfair, deceptive, untrue, or misleading advertising that
18 constitute unfair competition as defined in the Unfair Competition Law, Business and Professions
19 Code section 17200 et seq. These acts or practices include, but are not limited to, the following:

- 20 a. Creating or assisting in the creation of a public nuisance in violation of Civil
21 Code section 3479, as alleged in the First Cause of Action;
- 22 b. Engaging in conduct that caused or contributed to the pollution, impairment,
23 and destruction of natural resources in violation of Government Code section
24 12607, as alleged in the Second Cause of Action;
- 25 c. Permitting plastic waste to pass into the waters of the State, in violation of Fish
26 and Game Code sections 5650, subdivision (a)(6), and 5650.1, as alleged in the
27 Third Cause of Action;
- 28 d. Disseminating untrue and misleading statements to the public in violation of

3 e. Making misleading environmental marketing claims in violation of Business
4 and Professions Code section 17580.5, as alleged in the Fifth Cause of Action.

5 f. Deceptively promoting the use and consumption of plastics when they knew or
6 should have known that plastics create hazards to communities and the
7 environment, including fragmentation of plastic polymers into microplastics,
8 which leach into air, land, and water.

PRAYER FOR RELIEF

10 WHEREFORE, the People respectfully request that the Court enter judgment in favor
11 of the People and against Defendants, as follows:

12 463. Compelling Defendants to abate the ongoing public nuisance their conduct has
13 created in California, including by establishing and contributing to an abatement fund to pay the
14 costs of such abatement;

15 464. Preliminary and permanent injunctive relief ordering Defendants to cease and
16 desist any and all deceptive public statements related to its plastic operations, including but not
17 limited to referring to its operations and products by the terms “advanced recycling,” “chemical
18 recycling,” “circular,” “certified circular polymers,” and “recyclable”;

19 465. Granting any and all temporary and permanent equitable relief and imposing
20 such conditions upon Defendants as are required to protect and/or prevent further pollution,
21 impairment, and destruction of the natural resources of California pursuant to Government Code
22 sections 12607 and 12610;

23 466. That the Court make such orders or judgments as may be necessary to prevent
24 the use or employment by any Defendant of any practice that constitutes unfair competition or
25 false advertising, under the authority of Business and Professions Code sections 17203 and
26 17535, respectively;

27 467. That the Court assess a civil penalty of \$2,500 against each Defendant for each
28 violation of Business and Professions Code section 17200 in an amount according to proof, under

1 the authority of Business and Professions Code section 17206;

2 468. That the Court assess a civil penalty of \$2,500 against each Defendant for each
3 violation of Business and Professions Code section 17500 in an amount according to proof, under
4 the authority of Business and Professions Code section 17536;

5 469. In addition to any penalties assessed under Business and Professions Code
6 sections 17206 and 17536, that the Court assess a civil penalty of \$2,500 against each Defendant
7 for each violation of Business and Professions Code section 17200 perpetrated against a senior
8 citizen or disabled person, in an amount according to proof, under the authority of Business and
9 Professions Code section 17206.1;

10 470. That the Court award disgorgement in an amount according to proof, under the
11 authority of Government Code section 12527.6;

12 471. Pursuant to Fish and Game Code section 5650.1(e), granting any and all
13 temporary and permanent equitable relief and imposing such conditions upon Defendants as
14 required to prevent further violations of Fish and Game Code section 5650;

15 472. Pursuant to Fish and Game Code section 5650.1(a), assessing a civil penalty of
16 twenty-five thousand dollars (\$25,000) against Defendants for each violation of Fish and Game
17 Code section 5650, as proved at trial;

18 473. Pursuant to Fish and Game Code section 5650.1, subdivision (i), assessing a
19 civil penalty of ten dollars (\$10) for each gallon or pound of material discharged;

20 474. Pursuant to Fish and Game Code section 12015, subdivision (a), ordering
21 Defendants to remove any substance placed in the waters of the State, or to remove any material
22 threatening to pollute, contaminate, or obstruct waters of the State, which can be removed, that
23 caused the prohibited condition, or to pay the costs of the removal by the State;

24 475. Pursuant to Fish and Game Code section 12016, subdivision (a), awarding
25 actual damages to fish, plant, bird, or animal life or their habitat and, in addition, for the
26 reasonable costs incurred by the State in cleaning up the deleterious substance or material or
27 abating its effects, or both.

28 476. Pursuant to Code of Civil Procedure section 1021.8, Government Code section

1 12607, Fish and Game Code section 5650.1, and Civil Code section 3494, awarding to the
2 Attorney General all costs of investigating and prosecuting claims aimed at protecting
3 California's natural resources, including expert fees, reasonable attorneys' fees, and costs in an
4 amount according to proof;

5 477. Ordering that the People recover its costs of suit, including costs of
6 investigation;

7 478. Order that the People receive all other relief that they are legally entitled; and

8 479. Awarding such other relief that the Court deems just, proper, and equitable.

9 **REQUEST FOR JURY TRIAL**

10 The People respectfully request that all issues presented by the above Complaint be tried by
11 a jury, with the exception of those issues that, by law, must be tried before the Court.

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13 Dated: September 23, 2024

Respectfully submitted,

14 ROB BONTA
15 Attorney General of California
16 DANIEL A. OLIVAS
17 Senior Assistant Attorney General
18 DEBORAH M. SMITH
19 Supervising Deputy Attorney General
20 

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